Consumers' Research BULLETIN

NOVEMBER 1949

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CONSUMERS' RESEARCH

Vol. 24 • No. 5 **BULLETIN** November 1949

Off the Editor's Chest

SINCE there has been considerable public discussion in recent months of the drift in the United States toward socialism, collectivism, or "statism," which may be described as government control and direction of economic and political life as envisioned in the ideal of a "managed economy" or the "welfare state," it is a fitting time to consider the position of the consumer in a social order in which government officials direct the life and activities of the citizens. All of these isms begin with claims or pretensions to programs for advancing the interests of labor and the common man. *Without exception, all propose to serve minority interest groups at the expense of the consumer.*

Many who came to look upon the development of German and Italian fascism as perfect examples of oppression of the masses and economic disadvantages to labor have forgotten that at its beginnings, fascism's appeal, like the appeal of communism and socialism, was primarily to labor, to the jobless, and other "underprivileged" groups. In all lands, the appeal of those who would professionally and as politicians provide the "abundant life" has been in their promises to favor certain classes at *the expense of the consumer and the middle classes.* In all cases, the abandonment of private enterprise and of the right to seek a personal or business profit, whether the change was by way of communism, socialism, or fascism, has been an essential and basic element of the proposed system of social and economic change.

There are many for whom the suggestion that an institution or social system has faults, or works imperfectly, prepares the ground effectively for a proposal that some system as yet untried be substituted for it, though the most rudimentary knowledge of logic should make it obvious that the proposed change may involve graver difficulties by far than the system it is proposed to supplant. All social-system builders and planners for social change work on this very evident fallacy and the readiness of many kindly citizens to be trapped by it. Yet no person possessed of hard common sense or any reasonable measure of experience with life should be fooled by any assumption, tacit or explicit, that a *new* system of production and consumption contrived by Utopians to be free, in theory, from the known flaws of an old system, will be without defects of its own, perhaps defects of a much more dangerous and far-reaching character. No one, in other words, except a visionary or a fool, will be inclined to follow theoretical or ideological guides along the course of revolutionary economic change into the promised land of Joseph Stalin or of Adolph Hitler and other totalitarian leaders. The consumer will, we believe, be wise to work on the principle that evolutionary rather than revolutionary change is the part of wisdom and of reasonable caution with respect to future contingencies and the endless and complex unknown factors that beset all economic and social systems; the consumer

(Continued on page 25)

Scientific and Technical Experts and Editors: F. J. Schlink, R. Joyce, Dwight C. Aten, M.C. Phillips, Erma A. Hinek, and A. R. Greenleaf. Editorial Assistants: Mary F. Roberts and B. Beam.

Symbols used to indicate sources of data and bases of ratings: **A**—recommended on basis of quality; **AA**—regarded as worthy of highest recommendation; **B**—intermediate with respect to quality; **C**—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; **1, 2, 3**—relative prices, **1** being low, **3** high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price; 48, 49**—year in which test was made or information obtained or organized by the staff of Consumers' Research.

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¶*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.*

★★★For a brief cumulative index of 1949 BULLETINS preceding this issue, see page 26.

CONSUMERS' RESEARCH BULLETIN, issued monthly by Consumers' Research, Inc. Publication Office, Box 429, Easton, Pa. **Address orders and correspondence to Consumers' Research, Washington, N.J.** Single copy 30c. Subscription price (12 issues) $3 per year, U.S.A.; Canada and foreign, $3.50. For libraries, schools, and colleges, a special subscription of nine monthly BULLETINS (October-June, inclusive) is available at $2; Canada and foreign, $2.50.

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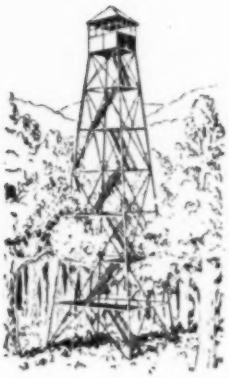


The Consumers' Observation Post

AUTO WINDSHIELDS are most effectively cleaned with plain water and paper towels, suggests the American Automobile Association. The AAA has received many complaints from car owners that certain types of cleaner used by service station attendants on windshields leave a film which interferes with clear vision when the wiper is turned on. It may take 15 to 20 minutes for the wiper to remove this film, and, in the meantime, if the driving is being done at night, the glare of approaching headlights almost blinds the driver. Plain water and a fresh paper towel vigorously used will do the job without bad after-effects, reports the AAA. The Association also recommends that the rubber blade of the windshield wiper be wiped at the same time that the windshield is cleaned.

* * *

HOW TO KEEP CAULIFLOWER more attractive-looking in storage for four to six weeks and longer is the subject of a release from the U. S. Department of Agriculture. It appears that by spraying the heads with 2,4-D or napthalene-acetic acid (NA) or a mixture of the two, or by packing them in shredded paper impregnated with one of the chemicals, they will keep their crisp white and green appearance. Just what this preservation-of-appearance process does to the vitamin content and hence to the food value of cauliflower is not mentioned. It is well known, however, that the vitamin content of vegetables is directly related to their actual, not their apparent, freshness.

* * *

THE AMOUNT OF SUDS THAT SOAP or a synthetic detergent makes in the dishpan or washing machine is not necessarily the measure of its effectiveness in getting dishes or clothes clean. According to tests made by the New York State Experiment Station at Geneva, N.Y., solutions of certain sudsless detergents removed soil in dishwashing better than others with abundant foam. The New York State Station points out that the cleaning ability of any detergent depends largely on two qualities: How well it dissolves soil, and how much it aids water in getting the soiled articles wet so that the dirt can be carried away quickly and thoroughly. The value of any cleaning preparation should be judged not by the amount of foam it makes, but by how thoroughly it cleans.

* * *

WAR EXCISE TAXES which are still imposed on many items that consumers buy are characterized as undemocratic and discriminatory by Robert A. Love of the New York City College School of Business. Prof. Love points out that the excise taxes tend to reduce or eliminate the free choice of an article by a consumer and that it is unrealistic for the federal government to put a burden on certain products at a time when it is encouraging lowering of prices to stimulate business activity and reduce unemployment.

* *

TELEVISION DEALERS are warned by the magazine Radio & Television Retailing to be careful about placing magnifiers for television sets in store windows in such position that the magnifiers catch the direct rays of the sun. There is a definite fire hazard involved, for the lenses have great light-concentrating power, which has already been reported as the cause of several fires.

* * *

SOAP is to be defined as a cosmetic and included in the jurisdiction of the Food, Drug, and Cosmetic Act, if a bill introduced by Senator Guy M. Gillette becomes law. The object of the bill is to require the labels on soap, soap flakes, and soap powders to bear "an accurate statement of the contents in

terms of weight, measure, or numerical count." Senator Gillette favors such labels because a senate subcommittee of which he is chairman has found that many consumers prefer synthetic detergents to soap, and at the present time have no way of telling one from the other.

* * *

USED CARS are coming down in price. In fact, experts in the trade predict that within a few months the prices of used cars will probably be back to their old pre-war relationship to new car prices, according to The Wall Street Journal. Others closely connected with the used car business don't go quite that far, but admit that prices are due for a slump. The Wall Street Journal hastens to point out, however, that even restoring the pre-war price relationship between secondhand and new automobiles won't bring the actual prices of used cars down to what they were in those days.

* * *

ANOTHER DISTRIBUTOR of aluminum ware, Honor-Craft Aluminum Cookware and American Healthcraft Aluminum Ware, has been charged with "grossly false, deceptive, and misleading" promotion by the Federal Trade Commission. According to the F. T. C., the distributors falsely claimed that the products regularly sold for $119, but were offered at the special rate of $49.50 plus a $2 service charge in connection with various publication surveys and polls. Furthermore, the F. T. C. charged many customers couldn't get refunds on their deposits when they decided they wanted their money back

* * *

PUFFINESS UNDER THE EYES of children under 8 years of age who are moderately underweight and moderately anemic may be a symptom of respiratory infections and secondary anemia, according to the Journal of the American Medical Association. The Journal observes that some children in the three to eight year age group seem to suffer a number of respiratory infections, particularly during the winter months while they are in school. Eventually they outgrow the difficulty, and puffiness under the eyes clears up. Increasing the children's general resistance by emphasis in the diet on foodstuffs containing protein and iron (eggs, meat, particularly liver) is recommended.

* * *

TELEVISION SET MANUFACTURERS are reported ready to take action to eliminate misleading advertising of picture screen sizes. One television manufacturer recommends that sets be advertised as having 10-, 12-, or 16-inch tubes without other reference to the picture size. The advertising claim that aroused considerable ire in the trade was one which asserted that a certain set with a 10-inch tube provided a 160-square-inch picture. On investigation it was found that, of course, a magnifier was necessary to receive a picture of that apparent size from the particular set in question.

* * *

SELF-SERVICE GASOLINE DEALERS in the West are giving the other service stations considerable competition -- to the benefit of the consumer's pocketbook In Seattle, where self-service dealers are banished to the city's outskirts, a sign on one city station read "Save 4 cents -- we pump." In California, one self-service gasoline distributor won a court order requiring Standard Oil of California to continue to sell petroleum products to his company. Although the alleged reason for banning self-service gasoline stations in some cities is the hazard of fire, the fire chief of San Diego, California, is quoted as saying that such stations may be even safer than the conventional stations because car owners are less likely to have gasoline spill-overs on their own cars than a man who is merely servicing another person's car.

* * *

HOPEFULLY THE SEARCH goes on for some magical substance that can be incorporated in a dentifrice to prevent tooth decay no matter how much sugar, soft drinks, and other carbohydrates are included in the diet. Currently the dentifrice manufacturers are advertising ammoniated tooth pastes and powders

(The continuation of this section is on page 29)

Dictation Machines

Editor's Note: *A previous report on dictation machines, which appeared in the March 1949 Bulletin, included listings of electronic and acoustic models of several makes. Since the previous tests, CR has completed test work on three additional machines, all of which are classified as electronic.*

A MODERN dictation machine is a rather complicated mechanism as a glance at the "insides" of the cabinet chassis will show. In it one will find usually an intricate mechanism which is used to turn or wind the medium on which the spoken word is to be carried. In addition, the modern device uses an electronic circuit similar to the amplifier found in many home radios, together with a microphone, earphones, and other accessories.

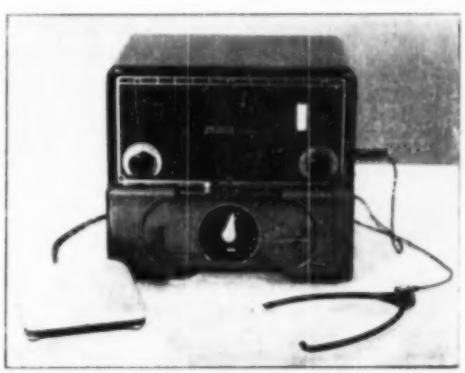
The latest models offer many advantages over their "all-acoustic" (non-electronic) predecessors. Among these advantages are much improved quality of sound output, with greater intelligibility, greater versatility in use because of improved sensitivity, compactness and reduced weight of some units, portability in most instances (some of the late designs can be operated while in a moving automobile), compactness and durability of recorded medium in the event it is to be filed, and fewer errors by the stenographer, by reason of improved speech quality. In addition, some of the newer machines provide for recording up to one hour's dictation on a single recording strip or medium without change.

While the advantages named are certainly of importance and were in many cases incorporated in the units tested, it appears the old saying that "all is not gold that glitters" is applicable to all three machines in the present test, for each failed to function properly within the time allocated for the test work. Correspondence from subscribers indicates that CR's experience was not an exception to the general rule, and the prospective purchaser of a modern dictation machine is forewarned that he may likely have trouble in its use from time to time. For this reason, ***constant availability and promptness of service*** appear to be the most important considerations in making a choice, and it would appear that if a fixed yearly service is available and not unduly expensive, it would be worth while to contract for it; this becomes doubly important if it is expected that the machine purchased will be given rather hard and steady use.[1]

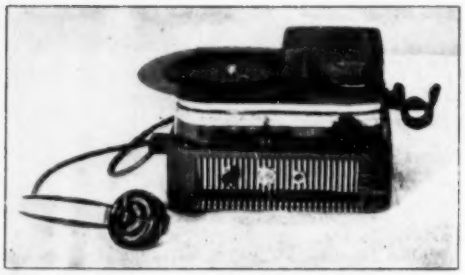
An engineering examination of the units indicated that considerable thought had gone into their design. It must be remembered, however, that the electronic dictation machine is a comparatively new office device — the *Soundscriber* made its debut in 1940 — and continuous improvement in the operation of dictating machines is to be expected for some time to come. Such conveniences as a warning noise indicating the approach to the end of the dictating medium with automatic stopping after a predetermined time, backspacing arrangement for use with the transcriber, immediate start and stop of the recording medium,

[1]CR's judgments of dictating machines are for the use of its subscribers and are made with the assumption that one or possibly two units might be purchased. They may not be applicable, therefore, to purchases by large commercial companies which may purchase 25 to 100 units or more and can thus afford to have spare equipment available at all times to be used in case of breakdown.

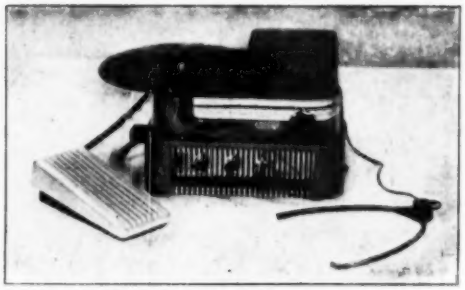
Peirce Executive Dictator, Model 265



Peirce "Super-Transcriber," Model 270



Audograph Electronic Soundwriter, Executive Model



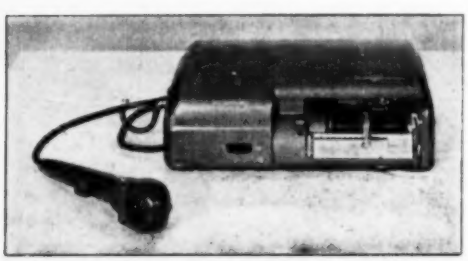
Audograph Electronic Soundwriter, Secretarial Model

use of vacuum tubes which will give immediate rather than delayed warm-up and so eliminate the need to keep the machine turned on and motor running at all times are among these improvements to be expected.

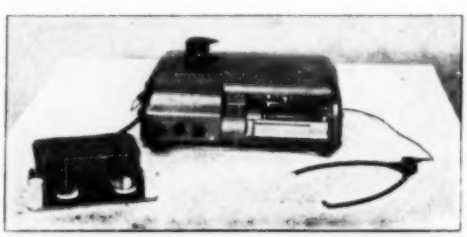
Some of the machines included in this report did include several of these advantages. The *Gray Audograph* gave a warning "click" from 1½ to 2½ minutes before the end of the disk which was especially useful. It did not, however, shut off automatically at the end. The *Peirce* wire recorder and the *Dictaphone Time-Master* both shut off automatically when the end of the wire spool or *Memobelt* was reached and provided a visual indication that the end of the medium was at hand. They failed, however, to give any audible warning that this was *about* to happen, and the person dictating might have to interrupt his dictation in the middle of a sentence or thought unless he was willing to keep one eye on the machine, so to speak.

The means used to mark the end of dictation of a letter and any corrections made in it during dictation was considered well designed in the case of the *Audograph*. It consisted of a thin strip of heavy paper about 9¼ inches long and 1 inch wide, in which the person dictating could note corrections and letter endings by simply pressing down keys which punched small holes in the strip at the proper position. When the disk in use had been filled, it was given to the secretary along with the punched strip. When inserted in the transcriber, the punched holes showed as red or green dots, indicating corrections or letter endings. The method used by *Dictaphone* to accomplish the same result was considered not as satisfactory. The *Dictaphone* used a thin paper strip which was more difficult to handle, metallic markers actuated by *unmarked finger tabs* which were quite confusing to use until one became accustomed to the operation. With the *Peirce* wire recorder, corrections were made by electronically erasing the error and substituting the correction for the error on the wire medium. While this was considered a convenient method of correcting, it might militate against use of the *Peirce* by lawyers or others who would have need for employing the information on the wire for legal purposes, and in court. Such a record of testimony could be changed at will, for instance by an interested party. A dial, with pointer, on the front of the wire-holding mechanism was graduated in 15-second intervals (for the 15-minute cartridge), with 5 seconds easily estimated. The time reading was marked by hand on a separate sheet of paper and given to the secretary along with the wire cartridge.

The *Dictaphone* motor was stopped when the hand microphone was put on the hook at the side of the cabinet; the tube filaments remained "on," however, so that the unit was available for immediate use. The fact that the motor in the *Audograph* ran continuously as long as the unit was turned on



Dictaphone Dictating Machine, Time-Master Model



Dictaphone Transcribing Machine, Time-Master Model

was considered a disadvantage, and the slight noise it made could be disconcerting in a quiet office. The motor in each unit tested was equipped with a fan for cooling the interior mechanism.

In the listings that follow, all units described were for operation on alternating current only. No measurements were made of frequency response as it was estimated that in each case the response extended to at least 3500 cycles, which is considered adequate for voice reproduction. All three machines recorded at constant linear speed, which, in the case of disk recorders, is considered a slight advantage. (Most phonograph records are recorded at constant angular velocity which limits inner groove diameter if distortion is considered an important factor.) In addition, each machine had a volume control for adjusting volume of voice input signal to allow for varying characteristics of users. It should be noted that a *complete* unit consists of a dictation machine, and a transcription machine for use by the secretary. In a good many cases, one of the combination units would be practical for use where it is not likely that the dictator and secretary will have need for the machine at the same time.

A. Recommended

Audograph Electronic Soundwriter, Executive Model (Gray Mfg. Co., Hartford 1, Conn.) $319. 4 tubes used; transformer power supply. Cabinet finished in gray crackled enamel; size 6½ x 11¾ x 9¼ in. deep. Weight, 16.6 lb., comparatively light, an advantage. Used thin plastic disks as recording medium, usable on both sides and providing dictating times of 20, 30, and 60 minutes, depending upon diameter chosen. Small neon light in front panel flickered when machine was being used and gave useful indication that machine was operating correctly. Method of marking corrections and letter endings considered very good. Small red and green lights in chassis indicated that control lever was in listen or record position. An audible warning that the machine was not set to receive dictation might be considered more desirable because it would be less restricting in the placing of the machine on a desk or table. Strip release, letter end, and correction punch-tabs were marked, an advantage. Machine was considered easy to operate. Used separate styli for recording and listening. Drive from motor was through pulleys and thin flat belt; might be source of trouble after period of use. ¶*Secretarial Model* (transcriber), $295. Quite similar in construction and appearance to *Executive Model*. Had control for adjusting output so that tone would be satisfactory to the secretary. Leakage current, 0.4 ma., satisfactorily low. ¶*Master Model* (combination dictating and transcribing machine), $397. Provided for use as either a dictation or transcription machine in a single unit.

Peirce Executive Dictator, Model 265 (Peirce Wire Recorder Corp., 1328 Sherman St., Evanston, Ill.) $376. 4 tubes; transformer power supply, good. Motor and drive mechanism considered less complicated than those on *Audograph* or *Dictaphone* and might therefore be expected to stand up better under service conditions. Cabinet, smooth-finished enamel; size, 10¾ x 12 x 9¼ in. deep. Weight, 27.8 lb. (heavy). The cartridge containing the wire recording medium was easily inserted into the lower front section of the cabinet or readily removed for transmittal to the secretary. Cartridges available which take 15, 30, and 60 minutes of dictation. Corrections were made by backspacing (rewinding) and then inserting verbally the correct phrase or sentence into its proper place, an operation requiring some practice on the part of the user before mastery was attained. (The incorrect dictation was automatically erased with this operation.) The finished dictation was therefore continuous in most instances without need for first listening to corrections before typing a letter as was required with the *Audograph* and *Dictaphone*. Time record of letters dictated was kept on separate sheet and the record of their beginning and end noted from the time dial on the front of the cartridge. Machine stops and light glows when end of usable section of wire is reached. There is no audible warning signal. ¶*Peirce "Super-Transcriber,"* $361. This unit similar in appearance and shape to dictating unit except that cabinet speaker and push-button controls were absent. Leakage current, negligible.

Peirce Combination Dictator and Transcriber, Model 260 (Peirce Wire Recorder Corp.) $461. Very similar to *Peirce Executive Dictator*. Provided for use as either a dictation or transcription machine in a single unit.

B. Intermediate

Dictaphone, Time-Master Model (Dictaphone Corp., 420 Lexington Ave., New York 17) *Dictating Machine*, $350. Electronic circuit used 5 miniature tubes plus selenium rectifier. Gray cabinet with smooth finish; easy to dust; size, 4¾ x 13 x 10¼ in. deep. Weight of unit, 21 lb., about average. Used plastic *Memobelt* as dictating medium, which would take up to 15 minutes of dictation; only one side used. Overlapped joint in belt considered disadvantageous. (The manufacturer is understood to be developing a continuous belt without the lapped joint; that would seem to be preferable.) Operation of start-stop button on microphone while dictating caused noticeable click during transcription. Had separate on-off switch. Buzzer sounded if machine was not set for dictation; this is considered advantageous. Method of marking corrections and letter endings considered not so good as method used on *Audograph*; push keys and strip were unmarked so that line on strip could not be identified as a letter ending or correction. Hand microphone was considered not well balanced. Used polarized connecting plug (good). Leakage current, 1 ma. (excessive shock hazard). ¶*Transcribing Machine*, $325. Over-all appearance and internal drive and reproducing mechanism similar to dictating unit. Had volume, tone, and speed controls. Two-pedal foot control worked nicely and provided for great latitude in back-spacing. The speed control was considered an advantage; it provided for increasing or decreasing the speed at which a letter could be transcribed and thus would enable the secretary to adjust the dictation rate to her particular typing speed. (There was naturally a definite change in pitch of the voice with change in speed.) Used polarized connecting plug. Leakage current, 1 ma. (excessive shock hazard).

Oil Burning Space or Parlor Heaters

Editor's Note: *Space heaters, otherwise known as heating stoves or parlor heaters, are in very widespread use. The area that can be heated satisfactorily by such an appliance, however, is limited by the outside temperature, regardless of the size or type of space heater used. In the following article, various aspects associated with the installation, location, operation, and "comfort expectancy" in use of the heater, limitations on heater size, and use of circulating fans, are treated. The various types of space heaters are discussed.*

HEATING STOVES or parlor heaters, called space heaters by technical men in the heating industry, are more widely used for house heating in the United States than any other single type of equipment. According to the Housing Census for 1940, 35% of all urban homes and 63% of all rural homes were heated by space heaters of various kinds.

Factors responsible for this widespread use include: (a) low initial cost, (b) ease of installation, (c) good efficiency, (d) low fuel consumption. Offsetting disadvantages are that a space heater: (a) occupies usable living space, (b) provides heat that is unevenly distributed, (c) is limited in its capacity to the heating satisfactorily of 1 to 4 rooms.

Types of Space Heaters

Excluding the common portable "oil stoves," there are two main classes of stationary space heaters, generally designated by the terms "radiant" and "circulating" or "convection." The radiant type is unjacketed and, as the name implies, delivers a major proportion of its heat by direct radiation to near-by objects. The circulating or convection type usually consists of an inner stove in an outer shell, through which air currents flow to increase the heat exchange and stimulate circulation throughout the house. In this type, more heat is transferred by convection than by radiation, although both methods of heat transfer are operative in both types.

Several differences in performance were noted in a study of radiant and circulating heaters made by the National Bureau of Standards. The radiant heaters, for example, tended to lessen the temperature stratification of air or differences in temperature between the floor and breathing level, and to deliver a greater percentage of the heat nearer the floor, where more is needed. Because of this, the living zone (2 inches to 60 inches above the floor) can be heated to a given degree of warmth with less fuel than would be necessary with the circulating heater, and the radiant heater serves well for warming a single room. The temperature difference between rooms, however, is decreased by the circulating heater, which indicates that, for multiple-room installation, the circulating heater is to be preferred to the radiant type.

Circulating heaters have advantages over the radiant type in the reduced hazard of burns from direct physical contact, and the improved appearance afforded by use of the metal jacket. Many modern circulating heaters are of rather good appearance.

Comfort Conditions with Heaters

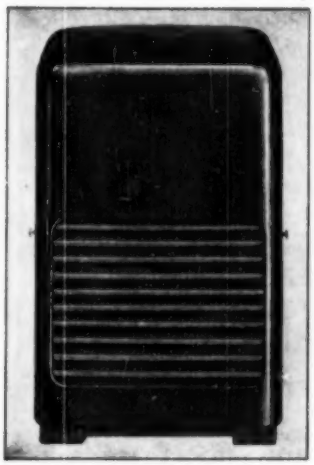
By American standards of comfort, the general heating pattern resulting from the use of space heaters is not very desirable; the room in which the heater is located and its immediate vicinity, especially, are heated to a higher temperature than the other rooms. The great popularity of this type of heating, however, shows that this disadvantage is often offset by the factors of low cost and simplicity. The problem, therefore, is not one of attempting to match the uniformity of central heat, which space heaters admittedly cannot do, but one of providing a degree of comfort and uniformity of temperature distribution that will be acceptable in each individual case.

In the absence of any official definition of comfort which would apply to space heaters, the Bureau of Standards tentatively defines "*comfort conditions*" as a minimum of 65°F at 2 inches above the floor and not over 80°F at 60 inches above the floor. They further define "*minimum acceptable comfort*" as not less than 60°F at 2 inches above the floor and not over 85°F at 60 inches above the floor.

Using these definitions of comfort, which admittedly would be modified in many instances by greater tolerance of many users, it was found that there were two very definite limitations governing the installation of single space heaters: (1) the area effectively heated by a heater as related to the area of the room; (2) the maximum size of the space heater that can be installed without producing excessive temperatures at the heater.

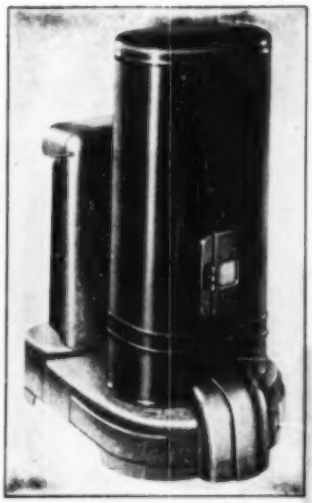
Radius of Effective Heating

With a properly located heater, the radius of



Quick-Heat, Model 9437-1

Nesco, Model 7010



Quick-Heat Radiant, Model 2200-0

comfort heating was found to be almost directly proportionate to the outside temperature (see Figure 1). With a frame house insulated under the roof only, the perimeter of minimum acceptable comfort (25°F differential between the hottest and coldest parts of the house) was 19 ft. from the heater with an outside temperature of 32°F, and only 7 ft. from the heater with an outside temperature of 0°F. This factor determines the area that can be satisfactorily heated by a single space heater of any size. Increasing the size of the heater does not materially change this radius of comfort heating, despite numerous manufacturers' tables to the contrary, because, with gravity circulation, heat can be forced further only by raising the temperature near the heater, with consequent greater overheating of the central zone. The area near the heater will then become so hot that it will no longer be considered usable.

Figure 1 can be used as a design chart to determine the area that can be comfortably heated for any anticipated winter weather. If weather below the selected design temperature occurs only occasionally, this can be met by temporarily closing off the room with the heater, and living therein. If the prevailing temperature is colder, it is advisable to install two or more heaters, each to take care of the area determined from the chart.

These results apply only to houses with heat transfer characteristics similar to those of the house used in the tests, i.e., one-story, insulated roof, uninsulated side-walls, and frame construction. For houses with a lower heat loss, brought about through the use of weatherstripping, storm sash, or full insulation, the comfort zone would be extended somewhat, and vice versa. This aspect of the problem has not yet been fully explored.

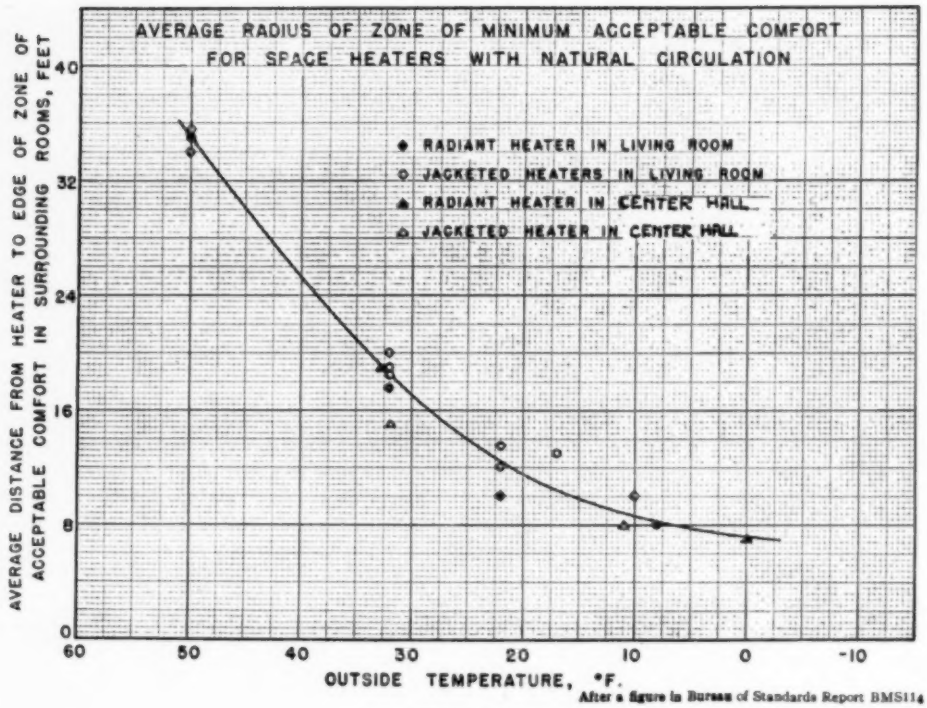
Limitation on Heater Size

In the Bureau of Standards test bungalow, for heaters in each of four locations, the "comfort condition" (15°F temperature difference between 2 in. and 60 in. from the floor) was exceeded in the living zone for every heater tested when the heat output was greater than 20,000 Btu/hr.[1] with natural circulation and 22,000 Btu/hr. with a fan. The 25°F total differential representing "minimum acceptable comfort" was exceeded at 26,000 Btu/hr. output with natural circulation and 29,500 Btu/hr. output with a fan. These sizes can thus be assumed to be close to the maximum heater sizes that can be recommended for residential use under comfort conditions; there is clearly a limit to the maximum size of space heater that can be installed for minimum comfort conditions.

Use of Circulating Fans

Most manufacturers offer small circulating fans either as integral parts of the space heaters or as accessories at $15 to $30 extra. In general, the use of such fans showed somewhat disappointing results; they produced only a slightly smaller temperature differential between rooms, and there was a tendency to increase temperature stratification between the floor and breathing line (a phenomenon known as "cold 70" in which the "room temperature" reads 70°, as is normally acceptable, yet the occupants "feel cold"). An ordinary desk-type fan placed on the mantel of the room in which the heater was located was found to be a good substitute for the fan supplied with a heater.

[1]Btu/hr. is the engineers' method of expressing the actual *rate of heat production* by the heater.



After a figure in Bureau of Standards Report BMS114

Figure 1

Fans were of the greatest value when the heaters were "off center" in relation to the space to be heated, which would be the normal arrangement, because they tended to correct the unequal distribution of heat. They were of only slight value when the heater was centered in the room. A fan's effectiveness in increasing the size of the heater that can be used for the same comfort conditions was not as great as might be expected; as has been mentioned, it was about 10% (i.e., 10% more heat can be distributed to the same comfort area with a fan than without).

Locating the Space Heater

There is usually a location for a space heater that will give the best results. This is almost always near the center of the space to be heated, with approximately equal opportunity for air to circulate through doorways to each of the surrounding rooms. An asymmetrical location with respect to the space to be heated can give vastly inferior results, although, as has been mentioned, a fan will sometimes improve conditions.

When more than one room is to be heated by a space heater, a large part of the heat must reach the remote rooms by natural circulation through open doorways, archways, transoms, and registers. Therefore it is important to see that the space to be heated is as "open" as possible. Beneficial effects may be expected also by using open registers at the floor and ceiling of a dividing partition.

Principles of Operation

The physical differences between various kinds of oil-fired space heaters, together with factors of selection, were covered in CONSUMERS' RESEARCH BULLETIN, February 1940, p. 15-20. A brief review follows:

a. **Flueless Heaters** ("oil stove"). Similar to a large kerosene lamp with a wick immersed in kerosene; usually a small portable heater suitable for occasional daytime use only, when a few degrees only of temperature rise is needed. Advantages: portability and low cost. Disadvantages: expensive fuel, small heat output, and, especially in the case of larger sizes without flue (use without flue is not recommended by CR), discharge of gaseous combustion products into the room. Fire hazard is a particularly important factor with the oil stoves of this category.

b. **Sleeve-Type Burner** ("blue flame"). Used principally as a kitchen range, small water heater,

and in very small space heaters. Consists of two perforated cylinders between which, at the bottom, is a kerosene soaked wick which is not normally consumed (on this account burner is occasionally called "wickless"). Will operate on a very low draft such as would be given by only 5 to 6 ft. of flue (measured vertically). Control over rate of heat output is poor with the "blue flame" oil heaters.

c. **Pot Type.** Used for most space heaters of a size between the portable and mechanically atomizing (motor actuated) heaters. Oil is vaporized and burned in a combustion chamber. Can burn heavier oil than the sleeve type. Needs stronger draft than sleeve type (20-ft. chimney recommended, 10-ft. minimum usable size — measured in a vertical line, of course).

Several space heater manufacturers buy pot-type oil burners of standard design and build them into their own heater casings. One of the most popular burners available for this purpose is the *Breese* as made by Breese Burners, Inc., 341 E. Ohio, Chicago 11.

Selection of "Standard" Heater Recommended

National Bureau of Standards; Commercial Standard CS101-43 entitled "Flue Connected Oil-Burning Space Heaters Equipped with Vaporizing Pot-Type Burners," has been available since 1942. Many minimum standards of construction and performance are given. While compliance with this standard is not compulsory, a heater not built in accordance with its provisions is not allowed to carry a label with the wording shown. The label provides strong protection against grossly shoddy construction and performance, and is the first thing that the consumer should look for in purchasing a heater of this type. The wording of the label should be as follows, with all blanks filled in:

Model No.....
Commercial Standard CS101-43
Output ..... Btu/hr. at
..... draft with CS No. 1 oil.
Manufacturer's name and address.
Underwriters' label requirements, including heaviest oil for which heater was approved.

Beware of claims in literature "that this burner has a higher efficiency than the Bureau of Standards requirements." (Minimum efficiency is given as 70%.) This is no substitute for the actual full approval, since the latter includes many other points of construction and performance that help to insure operating life, reliability, and safety to a maximum degree. Moreover the code specifies the exact method of test under which the efficiency is to be established. The manufacturer's claim if unsupported by any statement of his compliance with the standard, may likely mean very little.

The code also requires a standard guarantee and compliance with the safety requirements of the Underwriters' Laboratories. While CR has pointed out that the latter gives no positive assurance that an oil-burning appliance is safe in all uses and all home conditions, it does afford the consumer a useful degree of protection against obtaining a heater that is deficient in major respects as related to safety. It is best rule to buy a heater that does not have, or does not show, the Underwriters' Laboratories' label.

Oil-Burning Space Heaters — Circulating (Jacketed) Type Except as Otherwise Noted

A. Recommended

Coleman, Model R32 (The Coleman Co., Inc., Wichita, Kans.) $59.95 retail in Middle West. Own burner, rated oil consumption 0.063 to 0.30 gal. per hr.; rated output, 32,000 Btu/hr.; 3-gal. tank. *No. P-10*, 30-watt blower rated at 6000 cu. ft./hr. available at $14.95 additional.

Estate Heatrola, Models 4776 and 4771 (Estate Heatrola Division, Noma Electric Corp., Hamilton, Ohio) $114.95 and $99.95 respectively. Manufacturer advises that 1949-50 models, now ready, will carry label certifying compliance with Bureau of Standards code for first time. Such labeled models are *A. Recommended*; others cannot be recommended — see text. 8-in. "*pot-of-gold*" (manufacturer's designation) burner. Rated at about 35,000 Btu/hr. Tank not supplied with either model,

Perfection, Model 3140

Lennox, Models 4860 and 4875

but available in 6-gal. size for $9 extra. Manufacturer recommends outdoor tank of larger size, such as 50-gal drum, which would have the convenience of giving long intervals between filling. Forced-draft fans extra at $24.75; thermostatic wall-type controls for same, $23.75 and $19.75.

Lonergan, Model 4842 (Lonergan Mfg. Co., Albion, Mich.) $69.95 f.o.b. Albion. Manufacturer states that heaters are in accordance with Commercial Standard code but that heaters are not so tagged. Oval burner of special design. *Miniflow* pilot for low minimum fuel consumptions (manufacturer claims 42 hr. per gal. of oil). Built-in draft regulator. Will operate from wall thermostat. Rated at 42,000 Btu/hr.

Monogram Oilfire, Model 37D137 (The Quincy Stove Mfg. Co., Quincy, Ill.) $66.25 f.o.b. factory. 8-in. *Breese*-type burner as modified and patented by manufacturer. Rated 38,500 Btu/hr. 4½-gal. tank. Brown porcelain enamel finish. Draft adjuster included as standard equipment.

Perfection "Low-Boy" Heater, Model 3140 (Perfection Stove Co., 7609 Platt Ave., Cleveland 4) $142.50. 40,000 Btu/hr. Low flue opening, adapted to fireplace installations. Blowers and controls available as extras.

Preway, Model P48448 (Prentiss-Wabers Products Co., Wisconsin Rapids, Wis.) $49.50 f.o.b. 8-in. pot-type burner (burner manufactured by Breese). Rated 32,000 Btu/hr. 3-gal. tank. *No. P48491* forced-air blower unit optional at $14.90 additional. Draft adjuster provided to maintain recommended maximum of 0.06 in. of draft.

Quaker, Models 2006 and 2008W (Quaker Mfg. Co., 223 W. Erie St., Chicago 10) $56.95 and $81.95, respectively. *Model 2006*, rated 23,000 Btu with 6-in. burner; *Model 2008W*, 35,000 Btu with 8-in. burner. Smaller model particularly adapted to average-sized rooms because of its less-than-usual output. Circulator available at $18.45; draft booster at $19.95. The manufacturer advises that these models are no longer being made, but units may be available in some stores.

Quick-Heat, Model 3207-0 (American Stove Co., Lorain, Ohio) $79.50 f.o.b., 7-in. burner, metering valve model. Rated consumption of No. 1 oil, 0.047 to 0.365 gal./hr.; rated output, 35,500 Btu/hr.; 3-gal. tank equipped with gauge. Also available without casing (radiant type) as *Model 2206-0* at $57.50 f.o.b. All models use *Breese* impinging jet-type burners.

B. Intermediate

The construction and quality of the heaters in this group are the equal, and in many cases identical, to those of the preceding (*A-Recommended*) grouping. However, the heat outputs are so much greater that, for average residential use, attempts to force adequate heat to the full radius of capacity of the heaters could hardly avoid overheating of areas adjacent to the heaters. Thus, despite the popularity and wide use of these sizes, the residential use of two or more of the smaller units, when practicable, would, we believe, prove more satisfactory than the use of one of these larger models, at least for anyone desiring fairly even temperature distribution. In cases where smaller models have been described under *A. Recommended*, descriptive material is not repeated, because of similarity.

Charter Oak, Model 750 (Charter Oak Stove & Range Co., 7734 Hall St., St. Louis 15) $104.50. 10-in. *Breese* burner.[2] 5½-gal. oil storage tank mounted on back of cabinet. Rated 50,000 Btu/hr. Blowers avail

[2]While not specified in trade literature, a 10-in. burner is equivalent to approximately 45,000 Btu/hr.; 13-in. burner, 55,000 to 60,000.

Estate Heatrola, Models 4771 and 4776

Quick-Heat, Model 3207-0

Quaker, Model 2013W

able as extras. *Charter Oak* heaters are well constructed and comply with Bureau of Standards Code CS101-43; would be *A. Recommended* if available in smaller sizes more adaptable to installation in small and average homes.

Coleman (The Coleman Co., Inc.) *Model 518*, $99.95; blower, $25.25 extra; 51,000 Btu/hr. *Model 508*, $119.95; blower, $25.25 extra; 50,000 Btu/hr. *Model 558*, $129.95; blower, $25.25 extra; 55,000 Btu/hr. *Model 758*, $139.95; blower, $25.25 extra; 75,000 Btu/hr.

Estate Heatrola (Estate Heatrola Division, Noma Electric Corp.) *Model 4773*, $119.95; blower, $24.75 extra; 13-in. burner[9]. *Model 4778*, $134.95; blower, $24.75 extra; 13-in. burner. *Model 4772*, $109.95; blower, $24.75 extra; 10-in. burner. *Model 4777*, $124.95; blower, $24.75 extra; 10-in. burner.

Lonergan (Lonergan Mfg. Co.) *Model 4860*, $119.95; 60,000 Btu/hr. *Model 4875*, $134.95; 75,000 Btu/hr.

Monogram (Quincy Stove Mfg. Co.) *Model 37D147*, $132.50; 52,100 Btu/hr. *Model 37D157*, $151.65; 73,600 Btu/hr. *Model 37D257*, $178.35; built-in blower; 77,150 Btu/hr. *Model 37D247*, $155; built-in blower; 60,600 Btu/hr.

Perfection (Perfection Stove Co.) *Model 3155*, $142.50; 55,000 Btu/hr. *Model 3168*, $172.50; 68,000 Btu/hr.

Preway (Prentiss-Wabers Products Co.) *Model 48420*, $94.50; blower, $14.90 extra; 49,000 Btu/hr. *Model 48423*, $109.50; blower, $14.90 extra; 69,000 Btu/hr.

Quaker (Quaker Mfg. Co.) *Model 2010W*, $81.95; 45,000 Btu/hr. *Model 2013W*, $126.95; 59,000 Btu/hr.

Quick-Heat (American Stove Co.) *Model 827-1*, $88.50 f.o.b.; rated 46,900 Btu/hr. *Model 9437-1*, $149.50 f.o.b.; blower, $27 extra; rated 60,000 Btu/hr. *Model 7437-1* $132.50 f.o.b.; blower, $27 extra; 60,000 Btu/hr.

• • •

The following burners are not favorably listed because their manufacturers have not chosen to comply with National Bureau of Standards code for space heaters, CS101-43. Non-compliance does not, of course, imply poor design or performance of their heaters, but it is deemed that compliance with the code is an item of protection of ultimate consumer users of space heaters. Heaters would otherwise be *A. Recommended* except as noted.

Cole Hot Blast, Model 954-48 (Cole Hot Blast Mfg. Co., 3817-35 S. Racine Ave., Chicago 9) $45.40. 8-in. *Breese* burner. Rated 36,500 Btu/hr. Attractive cabinet. Fan, $10 extra; thermostat, $13.50. Automatic shut-off valves and draft regulator included in price. Humidifying pan, gauge for fuel, and front dial heat control knob. Underwriters' Laboratories' label.

Duo-Therm, Royal, Model 615 (Duo-Therm Division of Motor Wheel Corp., Lansing 3, Mich.) $99.95. 5-gal. fuel tank and constant level control. Rated 41,500 Btu/hr. ¶*Duo-Therm Sportsman*, Trailer Circulator, Model 525. $59.95. Especially designed for automobile trailers. 30 in. high, 12 in. wide, 20 in. deep. 2¼-gal fuel tank enclosed in heater casing.

International Trailer Heater, Model NAC-41 (International Oil Burner Co., 3800 Park Ave., St. Louis 10) $79.95 plus 5% federal excise tax. This model is widely used on trailers. Designed to circulate heat at the floor level of trailers through small ducts running under sink, etc. Blower unit, available as an extra, operates on induction principle to suck air from the heater into back bedroom through the small duct. 36¼ in. high, 12 in. wide, 16 in. deep. Requires only 4-in. flue connection.

Nesco, Model 7010 (National Enameling & Stamping Co., Milwaukee 1) Retail price, $89.95 east of the Rockies and $94.95 west. Rated 53,000 Btu/hr. 6.2-gal. fuel tank; 2.4-qt. humidity tank. Built-in draft regulator and clean-out rod to remove carbon accumulations. Fuel gauge. Manufacturer is considering compliance with CS101-43 in 1949; in which case rating will be *B. Intermediate* (on account of size). Listed by Underwriters' Laboratories.

General Reference on Space Heaters

Building Materials and Structures Report BMS114—"Temperatures in a Test Bungalow with some Radiant and Jacketed Space Heaters," by Paul R. Achenbach, National Bureau of Standards, Washington, D. C. 25c, from Superintendent of Documents, Washington, D. C.

STATEMENT OF THE OWNERSHIP, MANAGEMENT and CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912 AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) Of Consumers' Research Bulletin published monthly at Washington, N.J., and Easton, Pa., for September 1948-September 1949. 1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Consumers' Research, Inc., Washington, N. J.; Editor, F. J. Schlink, Washington, N. J.; Managing editor, none; Business manager, none. 2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Consumers' Research, Inc., a non-profit corporation, not a business enterprise, not operated for profit; Washington, New Jersey. Stock, none. 3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None. 4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner. F. J. Schlink. Sworn to and subscribed before me this twenty-third day of September, 1949. Marie M. Beers. (My commission expires May 14, 1951.)

Anti-Freeze for Automobiles

Re-Use of Anti-Freeze Solutions Unwise, as a Rule

Many motorists have followed the practice of re-using their anti-freeze solution in a second or third season. While in some cases no apparent harm has resulted, in others, corrosion and rust formation from the re-used solution have made necessary the carrying out of expensive repairs to the cooling system. The National Bureau of Standards has given considerable study to this problem and in Circular No. 474, Automotive Antifreezes (available at 15c, from the Superintendent of Documents, Washington, D.C.), *advises against using any anti-freeze solution for more than one season.* They state: "During use, the antifreeze solution can become contaminated by leakage of exhaust gas. The combustion products in exhaust gas, particularly the oxides of carbon and sulfur, will react with alkaline compounds present in the antifreeze inhibitor to form salts. As in the case of salt-base antifreezes, even the addition of new inhibitor cannot prevent corrosion by these salts. Contaminated antifreeze solutions with depleted inhibitors can cause more corrosion and rust formation than uninhibited hard water if their use is continued indefinitely. To protect against corrosion, drain the antifreeze solution after one winter's use or earlier if it becomes rusty in a cooling system that was reasonably clean when the fresh antifreeze solution was installed."

The Bureau concedes that under some conditions it may be safe to use a solution for more than one season without harm, but comments that the chemical analysis that would be required to determine whether a solution may safely be continued in use would cost much more than new anti-freeze. Since replacement of anti-freeze is relatively inexpensive, and repair or replacement of a vital part on the car can be costly, there would seem to be little doubt of the wisdom of using new anti-freeze solution each year. The National Bureau of Standards strongly advises against keeping anti-freeze in the cooling system during the summer, because of the rapid rate at which deterioration proceeds under summer driving conditions.

Avoid Unknown Anti-Freeze Liquids

CR again warns subscribers against purchasing anti-freeze solutions of unknown or "off brands"; products of that sort always involve risk of harm to engine or cooling system. Among the undesirable kinds of anti-freeze are those containing *salt in solution* (calcium chloride, magnesium chloride, or sodium chloride, or mixtures). These are strongly corrosive and there is *no known method by which they can be made noncorrosive by the addition of inhibitors.* Products using one of these salts can easily be identified by their weight, which will run from 10½ to 11½ lb. per gal.

A second kind that is to be avoided is the *petroleum distillates.* Boiling points of such oils are too high, and their vapors are dangerously flammable. Oils, too, have a deleterious effect on the rubber hoses of the cooling system. They can be recognized by their light weight and by the fact that the directions call for them to be used undiluted.

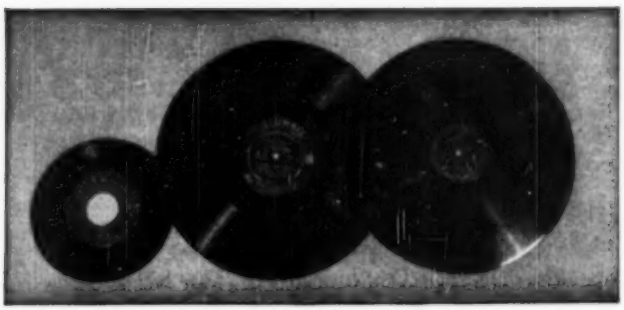
Denatured alcohol (ethyl or "grain" alcohol, also known as ethanol) and glycol base anti-freeze when properly inhibited and installed in a properly maintained cooling system are the only types that can be recommended to give satisfactory service (but for only a single season's use). CR's opinion is that, as between the two, ethyl alcohol solutions are somewhat to be preferred.

MAILING OF 1949 ANNUAL CUMULATIVE BULLETIN LATE

Our profound apologies are proferred subscribers for the inconvenience caused by the delay in the mailing of the 1949 Annual Cumulative Bulletin. When we announced in the advertisement in the October 1949 Bulletin (p. 29) that the 1949 ACB was off the press, we gave the impression that it would be in the hands of subscribers (who had previously sent in their orders) by the time they received their October Bulletin. This, alas, proved not to be the case. It was not until October 11 that the last of the orders (received up to September 14) was filled and in the mail. Our printer considerably overestimated the capacity of his bindery to deliver finished copies; although it was true that at the time the October Bulletin was mailed we had finished copies of the 1949 ACB in hand, the number was far too small to accommodate the flood of advance orders.

We are sorry, too, that each and every inquirer who wrote asking what caused the delay could not be answered personally. To have done so would have completely disrupted our routine handling of Bulletin orders, and so would have delayed even longer the filling of later orders. Please accept this expression of our regret for the trouble caused by the unanticipated delay.

The Three Types of Phonograph Records — Which to Buy?



Editor's Note: *Revolutionary changes made in records and record changers by the introduction of Columbia's long playing 33-1/3 rpm. disks, and Victor's 45 rpm. records, along with the continued production of 78 rpm. records, have left the record buyer in something of a quandary. Many consumers who think that manufacturers have been pretty high-handed in the whole matter have shown their resentment by cutting their record purchases to a minimum. They are, nevertheless, interested in ascertaining which records will best supply their demands for fidelity, convenience, compactness, wide variety of selections available, as well as what kind of equipment in the way of pickups, turntables, needles, etc., will be required to play the different types of records they may wish to purchase.*

This article helps to answer some of the important questions that arise in this connection. It has been prepared by a man who is not only a graduate engineer with wide experience in research on the acoustics of musical instruments and sound recording equipment, but who has also had experience as a teacher of music, musical theory and instruments. His experience and training enable him to approach the problem not only as an expert in acoustics, but as a person who has an ear trained in distinguishing differences in quality of musical reproduction.

THE PHONOGRAPH RECORD enthusiast and collector is now faced with a serious problem in obsolescence of equipment. Recent developments by the two major record companies have forced everyone who buys phonograph records to consider a difficult question regarding choice of new equipment to handle the new records. Unfortunately, the facts on which to base the decision are not easy to obtain. About the only source of information available to most consumers is the advertising of the various record companies concerned, and the intelligent purchaser is always aware that the manufacturer will have stressed the advantages and minimized the disadvantages of his product in such advertising.

Since manufacturers of the new records have announced that they will continue to supply all new releases on the "standard" 78 revolution-per-minute disks, there is always the possibility that the record buyer may wish to ignore the new developments and continue to purchase the conventional 78 rpm. phonograph records. Thus a review of the technical faults and virtues of the 78 rpm. record is first in order.

The origin of the "78" rpm. speed is lost in the early history of disk recording. Actually 78.26 rpm. is standard in U.S.A., and in Europe, where 50-cycle current is in general use, 77.92 rpm. is the nominal record speed. These speeds are determined by the number of bars on the stroboscope disk used to set turntable speed. The 60-cycle stroboscope has 92 lines, and the 50-cycle disk has 77 lines. The speed difference of 1/3 rpm. is not serious, but it can be detected as a pitch difference by a trained ear. In general, however, phonograph turntables do not run exactly at the

nominal speed, and the slight recording error is not comparable to the larger speed errors which may exist with phonographs in the home.

There were a great number of records made in the days of the "acoustic" (non-electric) recordings at exactly 80 rpm. Most of the Edison vertical-cut records were made at this speed. As the pitch error could be very annoying with these records, it was common practice to provide a speed-control lever on all turntables. This practice led to considerable misuse of the speed control, and it was finally considered to be an over-all system improvement when fixed-speed turntables were made available in the early '30's.

Disk Size a Factor in Tonal Quality

All other things being equal, the fidelity with which a recorded signal can be engraved on the disk and reproduced depends almost entirely on the velocity of the record material past the stylus point. For a given shape of record groove and reproducer stylus, the response will be best at the higher groove velocities, which occur at the outside of the records. Using a 2.5 mil diameter reproducing stylus, the losses on a 78 rpm. disk are not severe except on the inside inch or so of recorded surface. It has been common practice to continue to record very high volume levels right up to the inner grooves of phonograph records, a condition which always produces severe distortion and loss of high-frequency response. (To eliminate this distortion, the volume would have to be reduced toward the center, or a uniformly lower level used throughout.) The situation becomes most serious when the frequency range of the recording and playback equipment is extended (so-called high fidelity) as is being done at the present time. Whereas a few years ago phonograph records did not contain frequencies above 7000 cycles per second, all major record companies are now recording at least to 10,000 cycles, and one British company claims flat response to 20,000 cycles! At the same time phonograph record reproducers have been improved to the point where all of the distortion on the records is reproduced, as well as the extended frequency range. This phenomenon has given many people a dim view of so-called "high-fidelity" sound, because extended frequency range is of no value, and may be actually detrimental, if the over-all distortion inherent in the recording is high.

The point discussed is a fundamental deficiency of phonograph records, and applies equally well to all sizes and types. If manufacturers attempt to record at too small a record diameter, distortion is certain to result. It has been ascertained that the most efficient use of the record material is obtained when the outer groove diameter is twice the inside recorded diameter. If this is done on 78 rpm. 12-inch records, the playing time, per side, is even shorter than the present 4½ minutes maximum. In other words, in order to eliminate distortion toward the center of the record, the recording should not be carried close to the center; the effect is to shorten the playing time.

Another approach toward accomplishing the desired result is to increase the number of lines per inch on the recorded surface. If this is done, it is necessary to reduce the amplitude of the recorded signal or the "loudness" of the record, in order to prevent overcutting from one groove to another. This increases the background noise, which is already high on shellac records; the reason is that the volume control must be turned up to compensate for the lower recorded level. Of course, pressing the records on vinylite will greatly reduce the steady noise, but 12-inch vinylite records are very expensive for the small amount of playing time possible on a 78 rpm. record. There is a compensating factor in that the rate of wear on vinylite records seems to be much less than on shellac records when both are played with modern low-stylus-pressure playing equipment.

A further disadvantage of 78 rpm. records shows up if warpage is present. Victor records are exceptionally bad for both radial and vertical warpage at the outside of 12-inch disks. This is not a defect of the recording system, but rather a production problem which this company has failed to correct. The result on high-quality systems is a severe low-frequency disturbance, which in some cases may be so bad as to throw the reproducer completely out of the record groove.

This, then, is the basic difficulty of 78 rpm. recordings:

In order to achieve the longest possible playing time, it is necessary to record close to the center, where distortion becomes a serious problem if the level recorded is kept high enough to override the noise of the poor material used to make pressings.

The obvious solution is to use a quieter pressing material and then not use so much of the record surface. This, however, makes the cost of the disks disproportionately high for the amount of playing time possible at the comparatively high rotational speed of 78 rpm.

Despite these theoretical disadvantages, careful quality control, and careful attention to recorded levels, side breaks and acoustic balance have made possible very fine recordings which will stand very well the acid test of being played on wide-range playback equipment. Unfortunately for the domestic consumer, the American record companies, Victor in particular, have not bothered to produce good-quality pressings as a regular thing. None of the American record companies has consistently provided the public with all of the quality possible in 78 rpm. records.

COMPARISON CHART OF STANDARD RECORDS

	78 rpm. Shellac	78 rpm. Vinylite	LP 33-1/3, 10 and 12 in.	33-1/3, 7 in.	45 rpm.
Cost of Records for a Given Playing Time	Cheaper for short numbers.	Most expensive.	Cheaper for long compositions.	Higher than equivalent 78.	Higher than equivalent 78.
Repertoire Available	Unlimited.	Children's records; some serious music.	New *Columbia Masterworks* and *Decca*; some small companies' special releases.	Columbia Artists; popular music.	Victor and Capitol popular music; New *Victor Masterworks*.
Fidelity of Records	Can be as good as the best, except on innermost grooves.	Can be as good as the best, except on innermost grooves.	High end distortion (not necessary). Some "echo."	High-end distortion (not necessary). Some "echo."	Can be as good as the best.
Record Noise	Steady surface noise varies widely; not bad on good pressings.	Very low, compared to signal level.	Clicks and pops, rather annoying.	Clicks and pops, rather annoying.	Clicks and pops, bad. Rumble severe.
"Wow"	Most pressings not well centered. Radial warpage trouble in some makes.	Most pressings fairly well centered, but some show radial warpage.	Most pressings have excessive wow.	Most pressings have wow. Not so noticeable on the kind of music offered.	Wow rather severe, and variable.
Fragility of Records	Not easily scratched, but easily broken.	Most rugged of all types.	Easily scratched; not easily broken.	Easily scratched; not easily broken.	Easily scratched; not easily broken.
Record Wear	Shows wear quickly on high level passages. Least tendency to pick up dust and dirt.	Long playing life, with light pick-up and good stylus. Picks up dust readily.	Long life. Extremely hard to keep clean.	Long life. Extremely hard to keep clean.	Long life. Extremely hard to keep clean.
Needle Wear	Severe needle wear.	Easiest of all on needles.	Fairly low needle wear.	Fairly low needle wear.	Fairly low needle wear.
Equalization Necessary	Many different characteristics. No standard.	Many different characteristics, no standard.	One standard characteristic.	One standard characteristic, same as 10 and 12 in.	One standard characteristic. (Different from LP.)
Equipment Available for Playing	Any grade desired, regular makes, and custom-built.	Any grade desired.	No high quality standard player, but with custom equipment, as good as desired (Manual).	No high quality standard player, but with custom equipment, as good as desired (Manual).	No high quality player available in automatic changer. (Short playing time makes changer desirable.)
Time per Record Side	4½ min. — 6 to 8 sec. changer cycle.	4½ min. — 6 to 8 sec. record changer cycle.	25 min. — 10 sec. manual change.	4 min. — 15 sec. changer cycle.	5½ min. — 10 to 12 sec. changer cycle.

Long Playing Records a Boon to "Serious Listeners"

The most serious distraction to the lover of serious music is to have a long composition arbitrarily broken up into a series of 4½-minute fragments. No matter how rapidly the record changer completes its cycle, the loss of even one beat in the rhythm is enough to destroy the continuity of the musical line, and the listener's frustration, however subconscious, offsets a large part of the musical enjoyment for him. For this reason alone, the service Columbia has provided for listeners to fine music is of inestimable value. The musical satisfaction derived from listening to a composition in an uninterrupted performance is worth, in our view, a considerable conversion cost.

33-1/3 rpm. Records Present Problems, Too

A review of the technical features of the 33-1/3

rpm. long-playing records will be of interest. Sixteen-inch 33-1/3 rpm. records (known as "transcriptions") have been in use in broadcast stations for many years. Transcriptions have a groove shape substantially the same as used on phonograph records, and are played with about the same type of reproducer.

By scaling down both the groove dimensions and the reproducer stylus size, it is possible to achieve transcription results on a 12-inch diameter disk. The recorded level on such disks is so low, however, that only the quietest pressing materials (such as vinylite plastic) can be used. In addition to the quiet pressing material, further noise reduction is achieved by *accentuating the high frequencies* (known as pre-emphasis) in recording and then reducing them again (and, consequently, the noise associated with them) in playback. Despite all of these techniques, the noise on microgroove records is still a serious problem, because it consists of a series of clicks and pops, which can be more disturbing than a low-level steady hiss. Research in materials and processes should improve this situation; it is to be hoped that the record companies will make a determined effort to do this.

In the effort to reduce noise, the microgroove record characteristic (frequency response) has been chosen with an excessive high-frequency pre-emphasis in recording. This gives rise to serious high-frequency distortion, which partly offsets the advantages of the noise reduction. On a wide-range system, certain high-frequency passages will exhibit a peculiar "spitting" type of distortion which is objectionable to the musical ear. This is not noticed if the playback system is restricted to 5000 cycles or so, but then a large part of the possible quality is lost, and the improvement in sound quality over 78 rpm. records is nil. This is a situation which reflects an engineering fault, and not an inherent defect in the records themselves. It is to be hoped that the companies making microgroove records will modify their methods to eliminate this trouble.

Another serious defect of practically all microgroove pressings tested to date is the excessive "wow," or speed variation throughout any single revolution of the record. It stems largely from radial warpage and/or the fact that the central hole is not at the exact center of the groove system. It is strictly a manufacturing problem, and must be overcome if long-playing records are to become the standard medium for serious music. This slow-speed "wow" is even more exasperating to the trained ear than corresponding speed fluctuations, on 78 rpm. records, which are bad enough.

The long-playing record is nearly ideal for long compositions which require the time available on one or more records. An awkward situation exists, however, in the case of the short overture, or other compositions from 3 to 10 minutes in length. (Practically all popular music falls in this category.) Here the customer must take the assortment of music offered on a given record, or else forego the advantages of the 33-1/3 rpm. record.

The Victor 45's

The Victor 45 rpm. record was expressly developed for the short composition, such as popular music. Victor, being well aware of what pays in the record business, was interested in a medium for popular music, with serious compositions relegated to second place. Basically, with economic factors duly considered, the new system is a good idea. *If* a 7-inch record is the maximum size permitted, and *if* 5½ minutes is the maximum time required, and *if* the recording technique used by a particular manufacturer is such that recording below a certain minimum linear velocity at the record groove does not produce satisfactory results on the finished record, then 45 rpm. seems to be an utterly logical engineering choice. The only thing that weakens this argument is the fact that very good results are possible on a 7-inch disk at 33-1/3 rpm. One may be pardoned for wondering just how compelling were the advantages of the 45 rpm. system that led to adoption of this strictly non-standard speed of rotation.

In the first place, the Victor engineers have been wise in not using as much high-frequency pre-emphasis as Columbia technical experts did. The high-frequency distortion is nowhere near as severe as it is on Columbia long-playing records. Furthermore, the recorded level on the Victor records is lower than on the Columbias, which helps still further to reduce distortion. This fact, on the other hand, makes the noise problem much more acute on the Victor records, and the noise level, we believe, is the most serious failing of the new systems. The 45 rpm. records require more bass boost for proper balance, and rumble is very serious. A maddening feature of the Victor records is their tendency to slip on each other when stacked up. Columbia has been wise enough to put a "non-skid" ring on their 7-inch records, which eliminates this trouble.

There is no doubt that the Victor system is a real step forward in the matter of space requirements. Victor's record changer occupies very little room, and the disks can be stored almost anywhere. This has real practical advantages in small apartments. For people who like popular music and who are willing to accept only the artists available on Victor and Capitol records, the 45 system would seem to have some advantages. Good fidelity is not yet possible with the Victor player, since the pickup supplied does not do very well beyond 4000 cycles nor below 70. With these frequency restrictions in Victor's present system we cannot, in

summing up, see much advantage over 78 rpm. records except in size. If the cost per record ever becomes much lower, that will be the most significant advantage of the new system.

For the serious music lover, the side breaks, which are even longer than with conventional 78 rpm. records, completely ruin the performance. If he is willing to accept the Columbia and Decca repertoires and that of the small companies which produce LP records, the serious listener might do well to standardize on the 33-1/3 rpm. long-playing record. Such short pieces as he might want would best be obtained on 78 rpm. records, since all American companies will continue to make these, and the musical quality of the fine European records is a point to be kept in mind.

There is, of course, equipment available to play all three types of records, and some of these units are capable of fine quality. The *Webster 356-27* 3-speed mechanism equipped with good magnetic pickups will permit the listener to obtain as high a degree of fidelity as he desires. The *Webster 356-27* (obtainable from the large radio supply houses) provides an automatic changer to play all three types of records; two needle pressures; and head to take regular and microgroove cartridges. On the other hand, if adequate 78 rpm. equipment is already available, the needs of the listener to serious music can be met very well by a manual 33-1/3 rpm. turntable equipped with one of the good magnetic pickups now available.

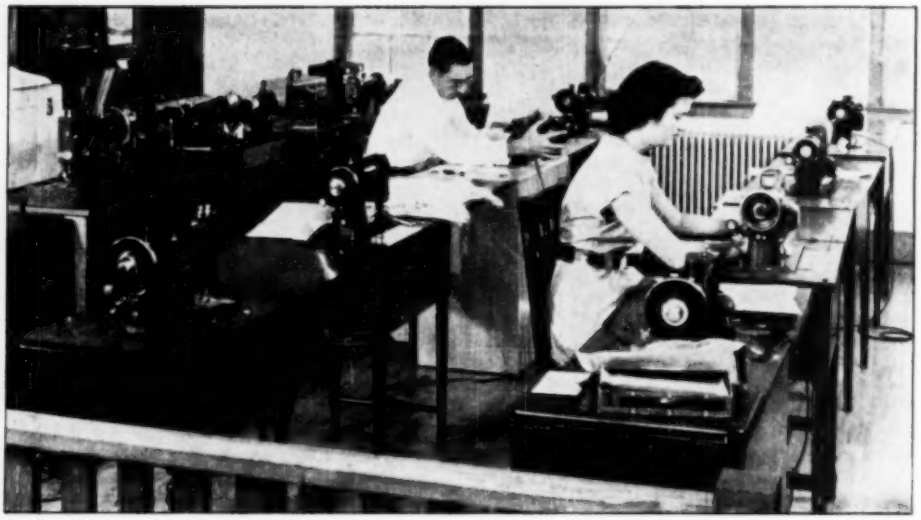
Which Type of Record Player?

For people starting a new record library who do not require the long-playing feature, and whose interest is largely in popular music, the 45 rpm. system would seem to be the logical choice, provided that the listener is not primarily interested in the highest grade of reproduction. Record changers at present available to play 45 rpm. records only do not permit anywhere near full utilization of the record quality. On the other hand, manual players with a wide-range pickup and amplifier expose the serious noise conditions which exist in the 45 rpm. records. It is not felt that this system is yet capable of as good results as can be had with the best of the conventional 78 rpm. shellac records. For the person who already has a 78 rpm. record library and good equipment on which to play it, there would seem to be no advantage in the 45 rpm. system except in its minimizing space requirements for records (which can be important for persons living in a furnished room or small apartment). For serious music lovers a 78 rpm. turntable with auxiliary manual equipment for LP 33-1/3 rpm. records appears to provide the best system.

What's in a Brand Name?

CR has frequently reported on the chemical composition of household chemical specialties of various kinds, including a variety of cleaning materials. It is a matter of course that such items are marketed with different ingredients at different times; sometimes different compositions are even offered for sale in different parts of the country — yet the same brand name is used for each. CR holds that whenever a product's composition is changed, a change of name should go with it, for unannounced variations in characteristics or composition of a given brand are a serious disadvantage to consumers. It is CR's view that every product name should correspond to a particular composition or design; that each change of design characteristics or composition should be accompanied by change of name, or at the very least by the addition of a new designating symbol or number beside the name, to permit the dealer and consumer unerringly to distinguish one "edition" of the product from another. There is no excuse, we hold, for a manufacturer to put the consumer into the position where he is led to suppose that two products both called XXX, which are really quite different in character because the manufacturer has changed his formula or the character of the finished product, are one and the same. Such an instability of brand name designations is the way in which consumers become not educated but misinformed and confused. It should be the aim of every manufacturer to let the consumer know when an improvement or alteration of composition has been made, rather than to let him suppose that he is buying the same material now as at an earlier time, when in fact the analyses and properties of the material may be quite different in the two cases.

The consumer will do well to remember that a later or "improved" formula or design may actually be much less satisfactory in use than the earlier one; with a number of products, CR has found that changes made in later models or formulations were for the purpose of reducing cost of production, or to serve convenience in manufacture rather than to make the article better.



SEWING MACHINES

A housewife will ordinarily buy a sewing machine only once or twice in her lifetime, and, will thus want to be sure she is buying the best machine for her needs. Mr. and Mrs. Consumer, if their interests run to mechanical matters, will want to read the following rather detailed discussion of sewing machines, as well as the listings. Others should read at least a part of the text preceding the listings, to see the importance of getting just the right sewing machines in the light of one's skill and needs and probable frequency of use of the machine.

Home economists, too, especially teachers, will be interested in the detailed treatment of the text

SEWING is a household skill which women have clung to through centuries. A lady today is not required to be able to "sew a fine seam," but to know how to use a sewing machine is considered an essential part of her household lore.

It has been estimated that there are now about 24 million sewing machines in use in the homes of the country. Lately there has been an increased interest in the art, and courses in home sewing are enjoying wide popularity, while sales of dress patterns and materials have increased.

Those who are considering buying a sewing machine would be well advised to learn a little about the different types of machines and to take time to understand important elements that determine choice of type.

Sewing machines make either a chain stitch or a lock stitch. As chain-stitch machines are not commonly used in the home nowadays, none was included in this study. The chain-stitch machines use a single thread and form a neat stitch that has a chain-like appearance on the underside of the material. The chain-stitch seam has considerable "give," and can be readily unraveled by pulling a loose end. The latter characteristic means that the seam ends must be carefully fastened. The lock stitch is strong and durable, looks the same on both sides of the material, and seam ends do not ordinarily require fastening.

All the machines tested made the lock stitch, in which two threads are used, one on each side of the material. If the stitch is made properly, these threads interlock in the center of the material (see Figure 5). Such a stitch requires that the upper and lower tensions be properly balanced. If the tensions are not so adjusted, loops will be formed or one of the threads will lie flat on the surface of the cloth (see Figure 6).

Machines making the lock stitch are known as vibrator, rotary, and oscillator types, according to the way in which the shuttles operate. They differ in the way they make a stitch, but not in the kind of stitch they form. If the plate covering the bobbin of a fully threaded machine is removed and

the handwheel turned slowly, it is possible to get an idea of how the machine makes a stitch.

In a vibrator machine (sometimes called a long-shuttle machine), the stitch is formed in the following way. The needle punches through the cloth, and the thread is carried through on both sides of the needle, and on one side slides into the needle groove. The needle stops when its eye is a little below the path of the shuttle. As the needle begins to move upward, the thread in the grooved side, shielded by the groove, moves up with the needle. The thread on the other side of the needle is held by the cloth, and a loop is formed. Then the long cylindrical shuttle with the slender bobbin in it advances at the end of a swinging lever and passes through the loop. In the final step, the needle moves up out of the cloth, the needle thread draws the bobbin thread up into the cloth, and the lock stitch is formed.

The operation of the rotary machine differs only slightly from that of the vibrator. The round bobbin in these machines rests in a rotating shuttle having a hook on its rim. The hook catches the loop and carries the needle thread around the bobbin. The loop of the needle thread slips off the shuttle hook and the stitch is formed. It will be easier to understand this operation if the observer removes the bobbin and follows through the operation at least once with the needle threaded. (See Figure 1, 2, 3, 4.)

The action of the oscillator machine is similar to the rotary but the shuttle instead of making a full revolution makes a little more than half a turn with the loop of needle thread. The thread slips off to complete its passage around the bobbin as the shuttle reverses rotation and returns to its original position.

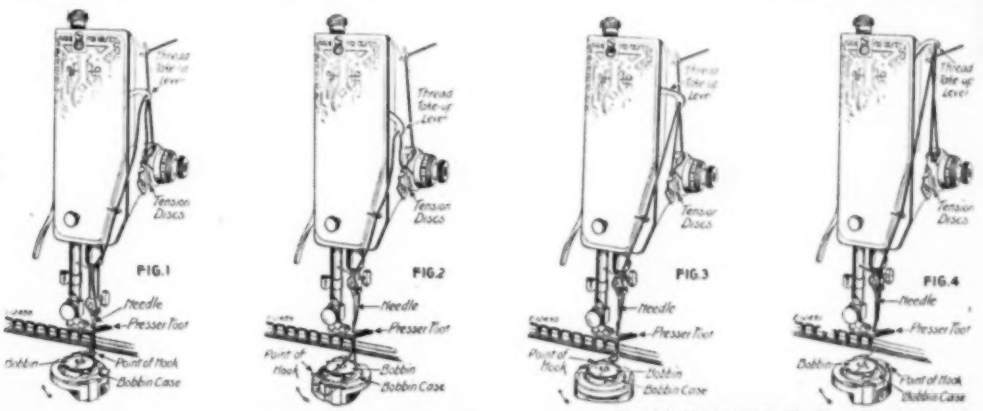
The shuttle and bobbin in the rotary and the oscillator machines may be in either the vertical or horizontal plane. The vertical position of the shuttle has an advantage mechanically over the horizontal, because it eliminates one change of direction in the driving mechanism. The horizontal position, however, has an advantage from the standpoint of convenient use, for it is easier to insert the bobbin with the shuttle in the horizontal position.

The vibrator machine has a long shuttle and a long bobbin vibrating back and forth in shuttle fashion. The shuttle is difficult to counterbalance, and on higher speeds the machine shakes or vibrates much more than an oscillator or rotary machine. For this reason, a vibrator machine should preferably be powered only by a foot treadle, since the tendency with electric motors is to run the machine much faster than with foot operation, and thus cause very marked vibration.

The oscillator machine has a smoother action than a vibrator machine, but there can be considerable vibration. Nevertheless, the possibilities of counterbalancing the oscillator type of mechanism are better.

The machine that operates most smoothly at all speeds is the true rotary machine. The *White 77* and the *Singer 201-2* are characteristic rotary sewing machines.

Four different methods were used to couple the electric motors to the machines. The preferred method is a "direct" drive in which a gear on the motor shaft drives another gear located on one of the main shafts in the machine. A second method uses a belt running between a pulley on the motor shaft and the main drive shaft of the machine. The third method uses a flat-rubber-faced pulley (wheel) mounted on the motor which is held against the outside rim of the handwheel on the machine shaft (friction drive). The fourth method, also friction drive, is similar in operation to the third, but uses a cone-shaped rubber-faced pulley on the motor shaft to drive the handwheel. On belt-driven machines, belt tension is adjusted by changing the



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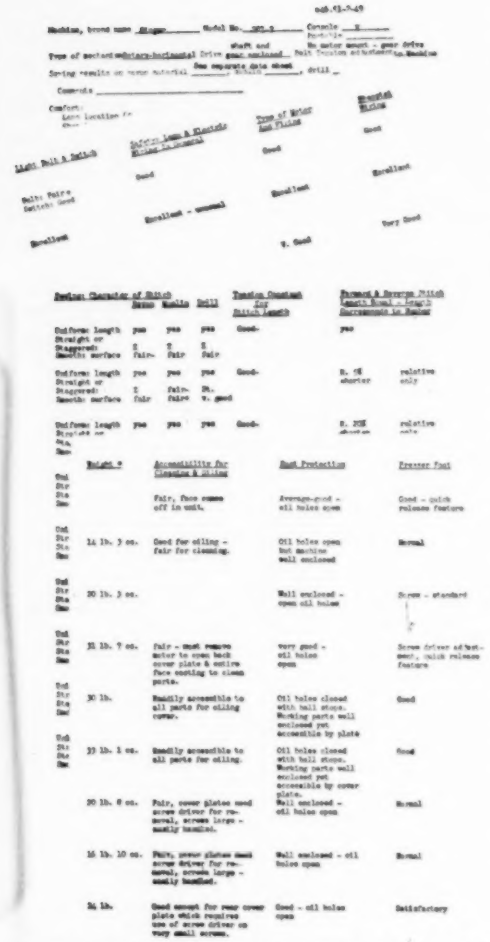
Four steps in the formation of a stitch by a rotary round-bobbin sewing machine.



Parts of four of the many data sheets recording a small part of the hundreds of detailed observations used as the basis for CR's report on sewing machines. The comments shown apply to different ones of the machines studied.

position of the motor. On direct friction drive machines, a spring-loaded motor mount holds the driving wheel against the handwheel at all times. The cone-shaped wheel drive is least desirable because it is difficult for the housewife to adjust it correctly, and its use involves a constant end thrust on the motor shaft which may tend to cause excessive wear on the motor bearings.

In CR's study, sewing tests were made on drill, muslin, and on rayon material such as would be used for making women's slips. Stitching was compared and checked for uniformity of stitch length, straight or staggered appearance, and smoothness of seam surface. Some machines sewed well on both muslin and drill, some not so well. The rayon fabric was a problem for all the machines, and none did a really good stitching job on it unless the machine tensions were readjusted correctly.

If an average housewife had to choose between the machines tested solely on the basis of the samples of machine stitching made during this study, she would have difficulty. For ordinary sewing, all the machines tested would serve, and the housewife would have to make her decision on the basis of convenience features, sturdiness of materials, design, and price.

The ease with which correct adjustment of the tensions can be made is probably the most important single feature of a machine, aside from its ability to sew. Some manufacturers claim that on their machines upper tensions are automatic under various conditions (that is with different thread sizes and thicknesses of materials), but CR knows of no machine which does not occasionally need a tension adjustment. A numbered tension regulator is considered desirable, as it simplifies making the adjustment.

A reverse mechanism is an advantage even if it is used principally for back-tacking; for some purposes, such as darning, it is helpful to be able to sew backwards. It should be noted, however, that *most* of the machines studied by CR did not sew as well in the reverse direction as forward.

A light is a desirable sewing machine accessory. It should be well located and designed so it presents no hazard to the user. All the machines in the present study (except the *Necchis* for which lamps were obtainable) had lamps. The arrangement on the *Ward's 85—4598R* was such that the lamp was "off" when the machine was being threaded. On some machines the lamp was so located that it was likely to be touched by the operator.

Sewing machines should be kept clean. The smooth-finished ones were judged more desirable than the crinkle-finished ones which would tend to collect dust, lint, and grime more easily.

All the machines studied were electrically operated and had motors that worked on either direct or alternating current. Since many women like to listen to the radio when sewing, the machines were checked for radio interference. It was found that all but three machines created so much interference on alternating current that it would be difficult, if not impossible, to listen to a radio with any pleasure. The *Elna* machine gave practically no interference, and the *Singer 221-1* and the *White 77* gave relatively little. All three of these machines, however, were noisy when operated on direct current.

The *Elna*, *Necchi BU* and *BF*, *Kenmore 95*, and the *Singer 201-2* were found to be the quietest machines in operation, but the amount of noise produced by any machine depends in part on its cabinet or, when the machine is a portable, on the table on which it rests.

The sewing machines generally were well constructed from the standpoint of electrical safety; some of the foot-controlled rheostats were, however, potentially dangerous. The ventilating slots in the cases were large enough so that a needle, pin, or a pair of scissors could be thrust inside and make contact with the wires. This could imply a hazard in homes where there might be small children playing on the floor.

In several of the machines certain wiring was poorly located so that it was subjected to possible damage by oil thrown by moving parts. This in general was considered undesirable.

The cabinets of the machines were examined but were not considered in the ratings, since a consumer usually has the opportunity to select the cabinet style she prefers. Consumers would be wise, however, to examine cabinets carefully and be sure that the hinges are strong and well attached, that drop leaves actually rest on strong supporting arms or doors, and that legs are not wobbly.

The choice between a cabinet or a portable machine is one for the individual consumer to make for herself in the light of her own circumstances. For some people whose living space is limited, a portable machine would obviously be the best selection. On the other hand, cabinets have an advantage in that they are ready for use any time they are wanted.

The portable machines are easier to handle and carry if they are light; machines in cabinets are more easily handled, too, if their design is such as to keep the weight at a minimum. A heavy machine can be a nuisance in a lightweight cabinet, especially if the legs do not stand on a rug to help keep the machine from sliding. The weights given in the listings include the carrying case and accessories when the machine is a portable, but include only the sewing head when the machine is a cabinet model, since it is the head alone that must be lifted into sewing position.

The many factors studied and evaluated in this study of sewing machines cannot, for reasons of space, be discussed in detail in this article. An attempt was made to select from our findings the information which it was believed would be of the greatest interest to consumers, and to include that information in the listings.

Two foreign-made brands, *Elna* and *Necchi*, are included in the listings. Consumers who consider buying one of them are advised to check the availability of repair parts and services.

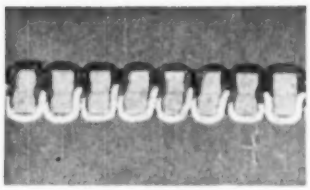


Figure 5

A model showing lock stitches when tensions are properly adjusted to each other. Top and bottom threads (needle and bobbin threads) interlock halfway between the opposite surfaces of the fabric.

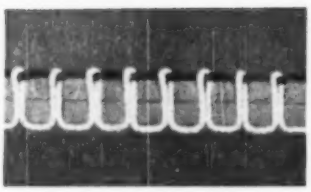


Figure 6

A model showing lock stitches when the upper tension is too tight. The upper thread lies on the surface of the cloth.

Ratings are based on two principal compilations of data. The first included data relating to the design and construction of the mechanism, adjustment features, finish, and other factors; the second, to the results of sewing tests. Since all machines would sew satisfactorily, as already noted, the results of the sewing tests were not given as much weight in the listings as the other factors. The best choice, however, would be a machine which gave good results in the sewing tests and ranked high with respect to other factors.

All machines had numbered stitch and tension regulators and reverse mechanisms, except as noted. On some machines the number on the stitch regulator did not actually indicate the number of stitches per inch, but was only relative. This was considered a disadvantage, but the housewife could become accustomed to the indefinite system. When the numbers on the stitch regulator indicated reasonably well the number of stitches per inch made by the machine sewing in the forward direction at that setting, comment is made in the listings.

The sewing machines had a smooth finish (considered desirable), except as noted. Prices of console machines depend on the cabinet; prices of portable machines include carrying case.

Console Models

A. Recommended

Kenmore, Model 93 (Distributed by Sears, Roebuck & Co.) $134.95 to $214.95, plus shipping charges. Vertical rotary mechanism; friction drive, coupling, flat-faced wheel. Weight, 31 lb. (heavy). Crinkle finish. Knee rheostat control. Performance in sewing, very good. 1

Necchi, Model BF (Made in Italy; distributed by Necchi Sewing Machine Sales Corp., 164 W. 25 St., New York 1) $164 to $240. Vertical oscillator mechanism; motor coupled to main drive shaft of machine by round belt. Weight, 30 lb. Foot or knee control. Performance in sewing, good. 2

Singer, Head 66-16 (Singer Sewing Machine Co., Singer Bldg., 149 Broadway, New York 6) $175 to $212.50. Horizontal oscillator mechanism; V-belt drive. Weight, 28 lb. Foot or knee control. Fairly accurate stitch length adjustment. Performance in sewing, fair. 2

White, Head 77 (White Sewing Machine Corp., Main and Elm Sts., Cleveland 1) $189 to $239. Vertical rotary; friction drive, coupling, flat-faced wheel. Weight, 31 lb. Crinkle finish. Forward and reverse stitch length adjustments are independent. Knee control. Accurate stitch length adjustment. Performance in sewing, fair. 2

Necchi, Model BU (Made in Italy; distributed by Necchi Sewing Machine Sales Corp.) $260 to $318. Vertical oscillator mechanism; round belt drive. Weight, 33 lb. This machine has levers which enable the machine to do special stitching without any attachments. The consumer, herself, would have to judge if she would do this kind of sewing often enough to make this useful. Foot or knee control. Performance in sewing, good. 3

Singer, Model 15-91 (Singer Sewing Machine Co.) $217.50 to $260. Vertical oscillator mechanism; motor coupled by gears. Weight, 28 lb. Reverse control tended to stick. Foot or knee control. Accurate stitch length adjustment. Performance in sewing, good. 3

Singer, Head 201-2 (Singer Sewing Machine Co.) $252.50 to $295. Horizontal rotary mechanism; coupling, by gears. Weight, 32 lb. Reverse control tended to stick. Foot control. Accurate stitch length adjustment. Light location poor for threading, but good for sewing. Performance in sewing, very good. 3

B. Intermediate

Kenmore, Model 55 (Distributed by Sears, Roebuck & Co.) $124.95 to $204.95, plus shipping charges. Vertical rotary mechanism; friction drive, coupling, flat-faced wheel. Weight, 20 lb. Crinkle finish. Foot or knee control. Performance in sewing, good. 1

Ward's (Montgomery Ward's Cat. No. 85—4598R) $134.95, plus shipping. Vertical rotary; friction drive, coupling, cone-shaped wheel. Weight, 26 lb. (about average). Crinkle finish. Tension regulator not marked. Required opening of the end cover to thread machine and to adjust upper tension control. Knee control. Stitch length control very critical (undesirable). Lamp well located, but lamp is "off" while the machine is being threaded. Performance in sewing, fair. 1

Domestic, Head 153 (Domestic Sewing Machine Co., Inc., Main Ave. and Elm St., N.W., Cleveland 1) $187.95 to $254.95. Vertical rotary mechanism; friction drive, coupling, flat-faced wheel. Weight of *153mg* (magnesium) head, 16 lb. (light, considered desirable). Wrinkle finish. Knee control. Accurate stitch length adjustment. Performance in sewing, only fair. 2

Free-Westinghouse, Model 626 (Free Sewing Machine Co., Rockford, Ill.) $183 or $188. Other models with same sewing head $173 to $256. Essentially the same as *New Home 626*. 2

New Home, Model 626 (New Home Sewing Machine Co., Rockford, Ill.) $183 or $188. Other models with same sewing head $173 to $256. Vertical rotary mechanism; friction drive, coupling, flat-faced wheel. Weight, 17 lb. (light). Knee control. Accurate stitch length adjustment. Performance in sewing, fair. 2

Sew-Gem, Model 215 (Gellman Mfg. Co., 1702 First St., Rock Island, Ill.) About $180 to $246. Horizontal rotary mechanism; belt drive. Weight, 24 lb. Crinkle finish. Knee control had somewhat unsatisfactory shape (like a shoehorn). Accurate stitch length adjustment. Cabinet 25 designed so that operator is able to sit directly in front of the needle, an advantage. Performance in sewing, fair. 2

White, Head 43 (White Sewing Machine Corp.) $167 to $199. Vertical rotary; friction drive, coupling, flat faced wheel. Weight, 27 lb. Crinkle finish. Knee control. Accurate stitch length adjustment. The light switch knob was in a position where it could be easily broken off. Lamp housing such that lamp was difficult to remove and replace. Performance in sewing, good. 2

C. Not Recommended

Ward's (Montgomery Ward's Cat. No. 85—4528R) $82.95, plus shipping. Vibrator long-shuttle mechanism; friction drive, coupling, cone-shaped wheel. Weight, 19 lb. Crinkle finish. Bobbin winder obstructs stitch length adjustment at upper range. Knee control. Accurate stitch length adjustment. Unmarked tension regulator. Vibrator mechanism judged satisfactory only for low-speed electrical or treadle operation. Performance in sewing, good. 1

Portable Machines

A. Recommended

Necchi BF (Made in Italy; distributed by Necchi Sewing Machine Sales Corp., 164 W. 25 St., New York 1) $142. See comment under *Necchi BF* console model. 2

Singer, Model 221-1 (Singer Sewing Machine Co., Singer Bldg., 149 Broadway, New York 6) $145. Vertical rotary mechanism; method of coupling motor to main drive shaft, V-belt. Weight, 19 lb. (light). Foot rheostat control. Accurate stitch length adjustment. Performance in sewing, fair. 2

White, Head 77 (White Sewing Machine Corp., Main and Elm Sts., Cleveland 1) $142. See comments under *White 77*, console model. 2

Elna (Manufactured by Tavaro Works, Geneva, Switzerland; distributed by Elna Corp., 441 Madison Ave., New York 22) $179. Horizontal rotary mechanism; coupling, round belt. Weight, 22 lb. (fairly light). Knee control. Carrying case could be used as a worktable. Case could scratch supporting table because of sharp edges. This machine was well designed and had many refinements that would make for comfortable and convenient use. Equipped with a reduction gear for sewing at slow speeds. Performance in sewing, good. 3

Necchi BU (Distributed by Necchi Sewing Machine Sales Corp.) $205. See comment under *Necchi BU* console model. 3

B. Intermediate

Kenmore, Model 55 (Distributed by Sears, Roebuck & Co.) $115. See comments under *Kenmore 55* console model. Weight, 28 lb. 1

Domestic, Model 153mg (Domestic Sewing Machine Co., Inc., Main Ave. and Elm St., N.W., Cleveland 1) $139.95. See comment under *Domestic 153*, console model. 2

Free-Westinghouse, Model 103 (Free Sewing Machine Co., Rockford, Ill.) $142.75. (*Model 104*, same head, $155.75.) Essentially the same as *New Home 103*. 2

New Home, Model 103 (New Home Sewing Machine Co., Rockford, Ill.) $142.75. (*Model 104*, same head, $155.75.) Vertical rotary mechanism; friction drive, coupling, flat-faced wheel. Weight, 26 lb. Foot control was somewhat awkward to use. Accurate stitch length adjustment. Performance in sewing, good. 2

Sew-Gem 10-215 (Gellman Mfg. Co., 1702 First St., Rock Island, Ill.) $149.75. Weight, 35 lb. (heavy). Horizontal rotary mechanism; belt drive. Crinkle finish. Foot control was somewhat awkward to use. Accurate stitch length adjustment. Performance in sewing, good. 2

(Continued from page 2)

who is not an Utopian will, therefore, recognize the importance of seeing what can best be done to adapt the *status quo* to changing needs and opinions, rather than to throw it out the window and start over with a new system, whether it be of Soviet commissars or well-meaning social workers propagandizing for the "welfare state."

Certainly scant heed should be paid to those who paint pictures of new economic systems, who have not behind them the proof of past ability to create one (even a little one!) *that works*, and who do not show an intimate and detailed understanding of the complex and intricate interrelationships of modern productive and consumptive activity. If the editors of the New Masses, the New Republic, of the New Leader or of any other left-wing publication are noted for anything in particular, it will be for the extent to which they are *not* aware of and have not lived with the complex realities of industrial production and distribution. They will be distinguished indeed for the extent to which they have *not* been associated with the better and more efficient design or making or testing of things which people buy and use. The planners and other radicals have, in a word, not made an enterprise *pay a profit or pay its way*; they have not measured the performance or efficiency of industrial products, nor qualified themselves as experts in production or cost determination. The most significant characteristic of "social changers" is that they have operated on a government payroll or under a subsidy of some sort, often from a foundation set up by some millionaire department store or metal or motor magnate, or stock broker, and in a business or accounting sense, at a loss, most of their lives.

The trend toward greatly enlarged government bureaucracy has always been a forerunner of socialistic change. There is no country in which the bureaucracy is large in which the government does not control the common life of people, through an elaborate system of inspectors, auditors, assessors, tax collectors, agents, "coordinators," administrators; not to mention visas, rationing, priority, and identity cards; permits to travel, to purchase and use paper for printing and publication, to engage in a business enterprise, to buy stocks or sell them, to change from one job to another, to move goods or a business from one address to another, to raise funds, to increase wages or salaries, and so on in almost endless detail. A large part of the *apparent* disorderliness of our present economy is the price which must necessarily be paid for the privilege of changing one's job when one is tired of present activities, or sees hope for higher income or a better future in another line; or the privilege of opening a new business, or entering upon a new trade, eating a different kind of food, or wearing a different or preferred style of dress.

In the managed economies toward which all socialistic proposals converge, every one of these freedoms will be lost. In even mildly collectivist regimes of some countries, freedom of choice and of education have been sacrificed for the presumed advantages of the centralized state which holds out the hope that it will care for all needs of the people in wise fashion, particularly those of the "underprivileged" and of racial minorities. The people are always assured that the change will be for the greater benefit of all, and particularly the "workers." Let it be remembered that systems of politics which propose social and economic changes for the benefit of a minority group always end by restraining the liberties of that and other minority groups, and, finally, often restrain the liberties of all groups, save the bureaucracy, which in time, in a controlled or regimented economy, becomes the majority, and occupies a favored position as to salaries, vacations, special means of transportation, easy and pleasant working conditions, and early retirement, with pension. If not the majority in number, it is the social overlord in power to decide what is to be done and who is to be permitted to do it, and with what tools, facilities, publications, radio utterances, and means of transportation. The moment that controls start to tighten, for example, with respect to means of transportation and communication, freedom of the individual to choose his own modes of travel and communication are yielded up to the "managers of the people's welfare," who are no more likely to act in the public interest — though they constantly *say* that they do — than were Hitler's Gauleiters or Stalin's political, literary, and scientific commissars.

Alzada Comstock, writing in The American Economic Review on a book by an economic authority, Dr. Gustav Stolper, interpreting and reviewing 70 years of Germany's economy, commented that "every chapter discloses an amazing continuity of the underlying trend, the ascendancy of the state over the economic life of the nation. Without this long preparatory work Hitler and National Socialism would not have been possible. . . . The Weimar Republic, with its manifold social reforms, left to the National Socialist state the easily absorbed heritage of an economic system that could properly be called 'State Socialism.' "

The believers in a free enterprise system have the responsibility for helping the enterprise system function. Only under such a system can a degree of economic freedom and security be available to

the population. Those who believe in free enterprise, rather than in the controlled economy of Russia, pre-war Germany, and the present Labor (Socialist) government of Great Britain, must see that others, who do not understand how the state encroaches upon the individual's privileges and rights a little at a time, are brought to a realization that the expanding and encroaching State always becomes the engulfing, dominating, classifying and controlling state.

It was John Calhoun, famous Senator from South Carolina, who said, "I am convinced that the power of the government can only be increased at the expense of the liberties of the people." Even Woodrow Wilson, who at a later day built precedents for greatly expanded governmental powers, said, "The history of the struggle for human freedom is the history of the struggle to limit the powers of the state." Those who know that the American system of free enterprise and the right to do business and to engage in occupations of one's own choice within reasonable limits, and to make purchases without limitations or unasked guidance from federal bureaucrats, must take vigorous steps to combat the measures of those who with ingenious argument and propaganda would fasten the strict and continuing controls of an absentee management by government officials upon the several million production and business units that make up our economy.

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†indicates that listings of names or brands are included.

RATINGS of MOTION PICTURES

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Charm, Chicago Daily Tribune, Cue, Daily News (N.Y.), *The Exhibitor, Harrison's Reports, Motion Picture Herald, National Legion of Decency Lists, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Preview Committee, Successful Farming, Time, Variety* (weekly), *Weekly Guide to Selected Motion Pictures* (National Board of Review of Motion Pictures, Inc.), and *Unbiased Opinions of Current Motion Pictures* which includes reviews by the General Federation of Women's Clubs, the American Legion Auxiliary, National Film Music Council, and others.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
soc—social-problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
—	3	7	**Abbott and Costello Meet the Killer, Boris Karloff**	*com AYC*
—	—	3	**Across the Rio Grande**	*wes AYC*
1	10	6	**Adventure in Baltimore**	*com AY*
4	4	—	**Adventures of Ichabod and Mr. Toad, The**	*mus-car-c AYC*
—	8	6	**Africa Screams**	*com AYC*
—	6	3	**Against the Wind**	*war-mel A*
—	3	3	**Agitator, The**	*dr A*
—	7	1	**Air Hostess**	*dr AYC*
—	—	11	**Alimony**	*mus-dr A*
—	9	7	**All Over the Town**	*com AYC*
—	2	3	**Amazon Quest**	*mel A*
—	2	11	**Anna Lucasta**	*dr A*
—	10	8	**Any Number Can Play**	*cri-mel A*
—	4	1	**Arctic Fury**	*mel AYC*
—	2	7	**Arctic Manhunt**	*cri-mel AYC*
—	4	1	**Arson, Inc.**	*cri-mel AY*
—	3	—	**As You Like It**	*com AY*
—	3	6	**Bandit, The**	*mel A*
—	3	3	**Barbary Pirate**	*mel A*
—	1	4	**Barber of Seville**	*mus-dr A*
3	14	1	**Barkleys of Broadway, The**	*mus-com-c A*
—	6	10	**Beautiful Blonde from Bashful Bend, The**	*mus-wes-c A*
—	8	7	**Big Cat, The**	*mel-c A*
—	1	12	**Big Jack**	*dr A*
—	5	1	**Big Sombrero, The**	*mus-wes-c AYC*
—	10	5	**Big Steal, The**	*mel A*
—	5	7	**Black Magic**	*hist-dr A*
—	1	3	**Blazing Trail, The**	*wes AYC*
—	4	7	**Blind Goddess, The**	*dr A*
—	2	1	**Blondie Hits the Jackpot**	*com AYC*
—	7	4	**Blue Lagoon, The**	*adv-c A*
—	3	3	**Border Incident**	*cri-mel A*
—	4	12	**Bride of Vengeance**	*hist-dr A*
—	4	1	**Brimstone**	*wes-c AYC*
—	5	5	**Broken Journey**	*mel A*
—	7	8	**Calamity Jane and Sam Bass**	*wes-c A*
—	—	3	**Caravan**	*adv A*
—	2	2	**Challenge of the Range**	*mus-wes AYC*
1	13	4	**Champion**	*mel A*
—	6	2	**Chicago Deadline**	*cri-mel A*
—	2	2	**Christopher Columbus**	*hist-dr-c AYC*
—	3	8	**C-Man**	*mel A*
—	7	6	**Colorado Territory**	*wes A*
1	11	2	**Come to the Stable**	*dr AYC*
—	2	2	**Counterpunch**	*com A*
—	1	2	**Courtin' Trouble**	*mus-wes AYC*
—	1	13	**Crooked Way, The**	*cri-mel A*
—	2	3	**Daring Caballero, The**	*wes A*
—	5	—	**Daughter of the West**	*wes-c A*
—	3	9	**Daybreak**	*dr A*
—	4	2	**Death Valley Gunfighter**	*wes AYC*
—	3	3	**Dédée**	*dr A*
—	2	3	**Desert Vigilante**	*wes AYC*
—	9	2	**Devil in the Flesh**	*war-dr A*
—	3	1	**Devil's Henchmen, The**	*cri-mel A*
—	4	2	**Doctor and the Girl, The**	*dr A*
1	2	3	**Dolwyn**	*dr A*
—	4	3	**Don Quixote**	*dr A*
—	7	1	**Doolins of Oklahoma, The**	*wes A*
—	3	—	**Down Dakota Way**	*mus-wes-c AYC*
—	3	1	**Down Memory Lane**	*com AYC*
—	2	5	**Duke of Chicago**	*mel AY*
—	1	3	**Earth Cries Out, The**	*war-dr A*
—	3	5	**Easy Living**	*dr A*
—	13	8	**Edward, My Son**	*dr A*
—	1	3	**El Dorado Pass**	*mus-wes AYC*
—	3	11	**El Paso**	*wes-c A*
1	5	1	**Everybody Does It**	*mus-com A*
1	4	1	**Fallen Idol, The**	*dr A*
—	5	9	**Fan, The**	*dr A*
1	6	—	**Father Was a Fullback**	*com A*
—	1	3	**Fear No Evil**	*dr A*
—	2	5	**Fighting Fools**	*cri-mel AYC*
—	2	3	**Fighting Kentuckian, The**	*hist-dr A*
—	5	2	**Flaming Fury**	*mel AYC*
1	7	8	**Flamingo Road**	*dr A*
—	3	2	**Flight into France**	*war-dr A*
—	5	7	**Follow Me Quietly**	*cri-mel AY*
—	4	11	**Forbidden Street, The**	*nov A*
—	1	6	**Forgotten Women**	*dr A*
—	9	8	**Fountainhead, The**	*dr A*
—	5	2	**Frontier Investigator**	*wes AYC*
—	—	4	**Frontier Revenge**	*wes AYC*
—	2	2	**Gal Who Took the West, The**	*mus-wes-c A*
—	4	2	**Gay Amigo, The**	*wes AYC*
—	2	4	**Germany, Year Zero**	*war-dr A*
—	9	5	**Girl from Jones Beach, The**	*com A*
—	5	5	**Girl in the Painting, The**	*war-dr A*
—	—	3	**Golden Madonna, The**	*dr A*
1	7	3	**Great Dan Patch, The**	*dr A*
1	7	8	**Great Gatsby, The**	*dr A*
—	3	2	**Great Lover, The**	*com AY*
—	5	10	**Great Sinner, The**	*dr A*
1	8	6	**Green Promise, The**	*dr AYC*
1	5	2	**Guaglio**	*war-dr A*
1	7	6	**Guinea Pig, The**	*dr AY*
—	—	4	**Gun Runner**	*mus-wes AYC*
2	3	1	**Heiress, The**	*dr A*
—	7	2	**Hellfire**	*mus-mel-c A*
—	1	6	**Hideout**	*cri-mel A*
—	3	4	**Hold That Baby**	*com AYC*

A	B	C		
—	—	3	**Hollywood Burlesque**	*mus-com A*
3	11	4	**Home of the Brave**	*propaganda-dr A*
—	1	8	**House Across the Street, The**	*cri-mel AY*
2	8	5	**House of Strangers**	*dr A*
—	4	—	**I Married a Communist**	*mel A*
1	9	2	**I Was a Male War Bride**	*war-com A*
—	—	—	**Ichabod and Mr. Toad, see Adventures of**	
—	8	6	**Illegal Entry**	*mel A*
2	12	3	**In the Good Old Summertime**	*mus-com-c AYC*
—	1	2	**Incorrigible**	*dr A*
—	1	2	**Interference**	*dr A*
—	2	4	**Iron Crown**	*dr A*
—	14	2	**It Happens Every Spring**	*com AYC*
2	7	3	**It's a Great Feeling**	*mus-com-c A*
—	4	—	**Jiggs and Maggie in Jackpot Jitters**	*com AYC*
—	1	9	**Jigsaw**	*dr A*
—	7	9	**Johnny Allegro**	*cri-mel A*
—	8	5	**Johnny Stool Pigeon**	*cri-mel AY*
3	10	2	**Jolson Sings Again**	*mus-biog-c A*
—	—	3	**Judge, The**	*cri-mel A*
—	5	9	**Judge Steps Out, The**	*com A*
—	—	4	**Jungle Goddess**	*dr AYC*
—	5	4	**Kazan**	*mel A*
—	2	5	**Kid from Cleveland, The**	*dr AYC*
—	7	5	**Kiss in the Dark, A**	*com A*
1	8	6	**Knock on Any Door**	*cri-mel A*
—	5	7	**Lady Gambles, The**	*dr A*
—	6	—	**Laramie**	*wes AYC*
—	2	4	**Last Stop, The**	*war-dr A*
—	—	5	**Law of the Barbary Coast**	*mel A*
—	5	3	**Law of the Golden West**	*wes AYC*
—	5	2	**Lawton Story, The**	*dr-c A*
—	6	1	**Leave It to Henry**	*com AYC*
—	2	3	**Life in Bloom**	*biog-c A*
2	14	2	**Look for the Silver Lining**	*mus-com-c AY*
2	12	1	**Lost Boundaries**	*soc-dr AY*
—	3	5	**Lost Tribe, The**	*mel AYC*
—	1	3	**Lovable Cheat, The**	*com A*
—	5	2	**Love Happy**	*mus-com A*
—	—	4	**Love Story**	*dr A*
—	—	3	**Lovers, The**	*dr A*
—	10	5	**Lust for Gold**	*mel-c A*
—	4	8	**Ma and Pa Kettle**	*com AYC*
1	3	10	**Madame Bovary**	*dr A*
—	—	5	**Maid of Formosa**	*dr A*
—	5	5	**Make Believe Ballroom**	*mus-com AYC*
—	3	5	**Make Mine Laughs**	*mus-com A*
—	2	1	**Man to Men**	*dr AYC*
1	5	7	**Manhandled**	*mys-mel A*
—	—	3	**Marked Girls**	*dr A*
—	3	8	**Massacre River**	*mel-c A*
—	2	2	**Master of Bankdam**	*dr A*
—	10	5	**Mighty Joe Young**	*fan A*
—	11	5	**Mother is a Freshman**	*com-c AYC*
1	9	2	**Mr. Belvedere Goes to College**	*com A*
—	2	4	**Mr. Soft Touch**	*mel AYC*
—	2	5	**Mutineers, The**	*mel AYC*
—	3	4	**My Brother Jonathan**	*dr A*
—	6	7	**My Dream Is Yours**	*mus-com-c A*
—	6	3	**My Friend Irma**	*mus-com A*
—	2	3	**Mysterious Desperado, The**	*wes AYC*
—	1	4	**Nail, The**	*mel A*
—	13	4	**Neptune's Daughter**	*mus-com-c A*
—	5	—	**Night Time in Nevada**	*mus-wes-c AYC*
—	1	10	**Night Unto Night**	*dr A*
—	9	8	**Not Wanted**	*soc-dr A*
—	3	1	**Oh, You Beautiful Doll**	*mus-com-c A*
—	—	5	**Omoo-Omoo**	*adv A*
—	12	3	**Once More, My Darling**	*com A*
—	4	8	**Once Upon a Dream**	*com A*
—	2	9	**One Last Fling**	*com A*
—	6	8	**One Woman's Story**	*dr A*
—	3	3	**Operetta**	*mus-dr AY*
—	2	1	**Outcasts of the Trail**	*wes AYC*
—	2	1	**Outlaw Country**	*wes AYC*
—	1	3	**Palace Scandal**	*dr-c A*
—	4	3	**Post Office Investigator**	*cri-dr AYC*
1	2	2	**Prince of Foxes**	*hist-dr A*
—	2	3	**Prince of the Plains**	*wes AYC*
—	2	3	**Professor, My Son**	*dr A*
2	14	1	**Quartet**	*dr A*
—	3	3	**Queen of Spades, The**	*dr A*
—	2	1	**Quick on the Trigger**	*mus-wes AYC*
—	2	1	**Red Danube, The**	*war-dr AYC*
—	2	6	**Red, Hot and Blue**	*mus-com A*
—	4	4	**Red Light**	*dr A*
—	7	7	**Red Menace, The**	*propaganda-dr AYC*
—	5	6	**Red Stallion in the Rockies**	*dr-c AY*
—	5	2	**Reign of Terror**	*hist-mel A*
—	4	2	**Riders of the Whistling Pines**	*mus-wes AYC*
—	2	4	**Rim of the Canyon**	*mus-wes AYC*
—	4	—	**Rimfire**	*wes AY*
—	4	5	**Ringside**	*dr A*
—	2	2	**Roll, Thunder, Roll**	*wes-c AYC*
—	10	7	**Rope of Sand**	*mel A*
—	8	5	**Roseanna McCoy**	*mel A*
—	8	7	**Roughshod**	*wes A*
—	—	4	**Rozina, The Love Child**	*dr A*
—	3	—	**Rubens**	*doc A*
—	4	2	**Rustlers**	*mus-wes AYC*
—	1	3	**Rusty Saves a Life**	*dr AYC*
—	4	3	**Saints and Sinners**	*dr A*
—	12	1	**Sand**	*mel-c AY*
—	8	5	**Saraband**	*hist-dr-c A*
—	—	4	**Savage Brigade**	*dr A*
2	6	—	**Savage Splendor**	*doc-dr-c A*
—	11	5	**Scene of the Crime**	*cri-mel A*
2	4	2	**Scott of the Antarctic**	*dr-c AYC*
—	—	3	**Search for Danger**	*mel A*
1	10	3	**Secret Garden**	*dr-c AYC*
—	3	6	**Secret of St. Ives, The**	*mel-c A*
1	10	5	**Set-Up, The**	*mel A*
—	4	3	**Shamrock Hill**	*mus-fan AYC*
3	5	—	**She Wore a Yellow Ribbon**	*wes-mel-c AYC*
—	6	1	**Sky Dragon**	*mys-mel AY*
—	3	—	**Skyliner**	*mel AYC*
—	5	6	**Slattery's Hurricane**	*mel A*
—	2	3	**Somewhere in Berlin**	*dr A*
—	1	4	**Song of Surrender**	*mus-dr A*
1	13	2	**Sorrowful Jones**	*com A*
—	2	2	**South of Rio**	*wes AYC*
—	7	3	**Special Agent**	*cri-mel AY*
1	2	2	**Spring in Park Lane**	*com A*
—	4	4	**Stagecoach Kid**	*wes AYC*
—	2	3	**Stallion Canyon**	*wes-c AYC*
—	6	3	**Stampede**	*wes AYC*
4	14	—	**Stratton Story, The**	*dr AYC*
—	2	4	**Streets of San Francisco**	*cri-mel A*
—	4	3	**Susanna Pass**	*mus-wes-c AYC*
1	9	4	**Sword in the Desert**	*war-mel A*
1	10	6	**Take Me Out to the Ball Game**	*mus-com-c AYC*
1	10	5	**Take One False Step**	*mys A*
1	4	2	**Task Force**	*war-dr-c AYC*
—	5	4	**Temptation Harbor**	*dr A*
2	6	1	**That Midnight Kiss**	*mus-dr-c AY*
—	4	4	**Thieves' Highway**	*cri-dr A*
1	4	1	**Tomorrow's A Wonderful Day**	*doc-dr A*
—	4	9	**Too Late for Tears**	*cri-mel A*
—	13	4	**Top o' the Morning**	*mus-com AYC*
—	—	3	**Trail of the Mounties**	*cri-mel AYC*
—	2	4	**Trail of the Yukon**	*adv AYC*
2	10	2	**Tulsa**	*mel-c AY*
—	7	3	**Tuna Clipper**	*mel AYC*
1	4	5	**Under Capricorn**	*dr-c A*
1	8	4	**Undercover Man, The**	*cri-mel A*
—	—	3	**Vilna Legend, A**	*dr A*
1	10	5	**We Were Strangers**	*mel A*
—	3	5	**Weaker Sex, The**	*com A*
1	7	4	**White Heat**	*cri-mel A*
—	1	5	**Wild Weed**	*mel A*
1	14	1	**Window, The**	*mys-mel AY*
—	2	6	**Woman Hater**	*com A*
—	4	3	**Woman Trouble**	*com A*
—	2	3	**Wyoming Bandit, The**	*wes AYC*
—	—	4	**Yank Comes Back, A**	*doc A*
—	5	8	**Yes Sir, That's My Baby**	*mus-com-c AYC*
—	4	5	**Younger Brothers, The**	*wes-c A*
2	8	3	**You're My Everything**	*mus-com-c AYC*

The Consumers' Observation Post

(Continued from page 4)

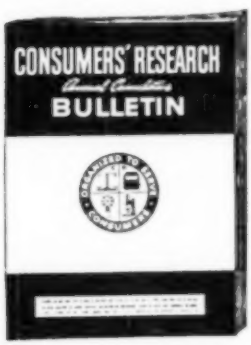
as the answer to the public's prayer for a preventive of dental caries. Advertising claims have been so lavish there is a rumor around that a number of dental groups have asked for a federal investigation, for the Journal of the American Dental Association has pointed out that many of the claims made for the ammoniated products are not warranted by available scientific evidence. When the present advertising campaign has had its day, no doubt there will be some newer miracle on which the admen will throw the spotlight. Possibly, it will be a green tooth paste containing chlorophyll, the green coloring matter of plants. Preliminary experiments of two researchers have recently demonstrated that this substance acts to destroy lactobacillus acidophilus organisms which are associated with tooth decay.

* * *

THOSE GADGETS that are so peguiling sold "knocked down" with directions for "easy assembly" are sometimes a snare and a delusion. William Feather reports the case of a man who bought a cart for his infant daughter that was to be assembled by following the "simple directions The directions were not "simple" and they could not be followed. Later the same man bought a to-be-assembled combination swing-and-gymnasium which cost $2 for the work of two strong men for two hours and fifteen minutes. Mr. Feather reached the conclusion: "Unless you're a natural mechanic, beware of unassembled gadgets."

* * *

SUBURBAN AND COUNTRY DWELLERS may well give some thought to putting their gardens and grounds to bed for the winter in the course of the present month. Winter injury to plants, shrubs, and evergreens is often caused, not by the cold, but by the drying action of winter wind and sun, advises the U.S. Department of Agriculture. Evergreens particularly may need to be protected from



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wind and sun by a screen or windbreak. Shrubs growing near the house should be protected against drip from the roof, gutters, or downspout, either by cleaning the gutters and repairing all leaks or by building temporary shed roofs of boards over the shrubs. To prevent bulbs and perennial roots from heaving out of the ground with alternate thawing and freezing, cover them with leaves or other mulch.

* * *

THE REGULAR USE OF MINERAL OIL as a laxative is frowned upon by the best medical experts. When taken near mealtime it interferes with the body's absorption of vitamins A, D, and K and it may cause vitamin deficiency when taken regularly. It has been demonstrated also that droplets of mineral oil may penetrate certain organs of the body and lodge there permanently. Early in 1949 a Massachusetts medical journal reported five cases of lung lesions caused by mineral oil in men between the ages of 60 and 70 who were in the habit of taking mineral oil as a laxative. The first step in clearing up the condition was for the patients to cease taking mineral oil altogether. The journal predicts that many more such cases in elderly people will be reported as the symptoms come to be recognized.

* * *

RECENTLY TESTED:

Arrid (Carter Products, Inc., 53 Park Place, New York City), 39c a jar. Essential ingredients at time of analysis found to be: aluminum sulphate, 12.2%; water, 51.8%; emulsifying agents, 9.0%; waxes and inert material, 25.4%; titanium dioxide, 1.5%; perfume, 0.1%. Advertising claims were held to be misleading and false by the Federal Trade Commission. The F.T.C. found that: use of Arrid will not terminate or bring to an end the flow of under-arm perspiration, nor absorb perspiration to the extent of keeping the armpits dry or free from the odor of perspiration for one to three days; the preparation is not harmless and its use will cause skin irritation and dermatitis in some people; if used after shaving, Arrid is capable of irritating the skin and of aggravating irritation. The company, however, is appealing the F.T.C.'s cease and desist order.

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PHONOGRAPH RECORDS

BY WALTER F. GRUENINGER

Please Note: In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended. Although nearly all new releases of serious music are heard, space narrows comment, generally, to items which merit high ratings.

Bach, J. C.: *Symphony in B Flat Major.* Städtisches Orchestra of Berlin under Gmeindel. 4 sides, Deutsches Grammophon Set 7. $6.30. Eloquent work by the youngest son of Johann Sebastian Bach. Not available on domestic labels. Average performance and, for 1940, good recording.
Interpretation A
Fidelity of Recording A

Beethoven: *Symphony No. 5.*
Boston Symphony Orchestra under Koussevitzky. 8 sides, RCA Victor Set WDM 1313. $4.30.
Interpretation B
Fidelity of Recording B
Paris Conservatory Orchestra under Schuricht. London LP 7. $5.95.
Interpretation A
Fidelity of Recording A

Koussevitzky "interprets" this popular symphony to excess. Too much hall echo and hardness in orchestral quality. Some records slip when played on Victor's changer. Under the circumstances, who can *enjoy* this set? Certainly it falls short of Bruno Walter-Columbia Set 498, best of the competition.

Schuricht's interpretation follows traditional paths. It is in no way exceptional. The recording on quiet surfaces, first of the London LP's to reach me, is rounder and wider ranged than the new Victor set. Some passages pop out as though there were too much volume expansion. Otherwise, best recorded *Fifth*. Yet, the warmth of Bruno Walter's interpretation continues to impress me. Overall, my choice remains Columbia Set 498.

The London LP's I have heard do not add up to the superiority many London 78's show over USA records. Bass must be boosted more than usual without, even then, attaining the depth of the London 78's. Too, added bass boost introduces motor rumble from my turntable. Highs are not so brilliant, either. Occasionally, a very brief rest not in the score betrays the end of a 78 side in the dubbing process. This fault-finding is relative, of course, for today's London LP disks are, on the whole, good. On the credit side, surface clicks are fewer than Columbia's.

Chopin: *Concerto No. 1.* Brailowsky(piano) with the RCA Victor Symphony Orchestra under Steinberg. 8 sides, RCA Victor Set WDM 1317. $4.30. Brailowsky's well proportioned performance and the bright recording score higher than the Rubinstein-Victor Set 418. The concerto, though cumbersome in the first movement and orchestrally weak throughout, is frequently played. Some slippage of records, with side 8 nearly reaching a standstill. . . . To prevent slippage, stick a small piece of adhesive tape between the last groove and the spindle. But why should the *consumer* have to finish the manufacturing process?
Interpretation AA
Fidelity of Recording AA

Dvorak: *String Quartet in F* ("American") & **Mozart:** *Adagio and Fugue.* Griller String Quartet. London LP 4. $5.95. The Dvorak is an appealing, melodious work. Played with zest and suavity that certainly equals the Budapest's performance in Victor Set 681. Wide range recording not balanced to advantage for the first violin seems far away in a resonant hall, the viola close at hand. **Interpretation AA**
Fidelity of Recording A

Gilbert & Sullivan: *Trial by Jury.* D'Oyly Carte Opera Company under Godfrey. London LP 70. $5.95. Who would question the style of this performance? All voices, however, do not sound equally commendable. Recording is best of the London LP's I have heard but it lacks clarity.
Interpretation A
Fidelity of Recording A

Glazounoff: *Concerto in A Minor,* Milstein (violin) with the RCA Victor Symphony Orchestra under Steinberg (5 sides); & *Meditation,* Milstein (violin) (1 side). RCA Victor Set WDM 1315. $3.35. I have never enjoyed this romantic work so much as when listening to this superb recording. Excepting for slippage in a few spots and the consequent travesty which is all too common with Victor 45's, the set is first rate, with most praise going to Milstein, of course. Supersedes the Heifetz-Victor Set 218 which is well played but recorded less realistically. **Interpretation AA**
Fidelity of Recording AA

Hindemith: *Nobillissima Visione.* Philadelphia Orchestra under Ormandy (1 side) & *Symphonic Metamorphosis On Themes of Carl Maria von Weber.* Cleveland Orchestra under Szell (1 side). Columbia LP 4177. $4.85. *Visione* I find uninspired, cerebral music that, nevertheless, impresses at times with its dignity. *Metamorphosis* is noisy and gay. Both are well played. Neither recording is warm nor as clean as today's best, though *Metamorphosis* is the better. **Interpretation AA**
Fidelity of Recording A

Mozart, Leopold: *Divertimento Militaire Sine Sinfonia.* Städtisches Orchestra of Berlin under Gmeindel (5 sides) (1 blank side). Deutsche Grammophon Set 15. $8.93. Only work available by the father of Wolfgang Amadeus Mozart. Not great music by a long shot, but engaging. Well played and, for 1940, excellently recorded. **Interpretation AA**
Fidelity of Recording A

Sousa-Goldman Marches. Goldman Band. 8 sides, Columbia Set C 191. $3.50. Few of the old favorites are here but the rhythm is strong, the tempo steady. Good recording.
Interpretation AA
Fidelity of Recording AA

Ezio Pinza in Operatic Arias (bass). 2 sides, Columbia LP 2060. $3.85. Exceptional singing of Rossini, Puccini, Halevy, Verdi, Bellini. Voice well recorded but the orchestra is too faint and lacks bite. **Interpretation AA**
Fidelity of Recording A

Negro Spirituals and Popular Ballads. Helen Traubel (soprano). Columbia LP 4221. $4.95. Satisfactory disk that, on one side, lacks only the projection of spiritual conviction. Excellent recording. **Interpretation A**
Fidelity of Recording AA

Strauss: *Don Juan* & **Tchaikowsky:** *Overture 1812.* Amsterdam Concertgebouw Orchestra under Mengelberg. 2 sides, Mercury LP 15000. $3.85. Magnificent performances of popular symphonic pieces. Re-recorded from Czecho-Slovak masters. Another example of the rush toward long playing for classical music by major and minor manufacturers with Victor the only important holdout. Praiseworthy, dynamic range in this recording. Yet, there is a bad waver in pitch in the opening section of *1812* and both sides, in general, lack clarity and highs. Many vinylite surface clicks.
Interpretation AA
Fidelity of Recording B

RECOMMENDED SINGLE DISKS

COLUMBIA: The Philadelphia Orchestra plays Bach on 12997-8. Tenor Tucker sings three arias from *Rigoletto* and one from *Martha* on 3-259. DEUTSCHE GRAMMOPHON: Baritone Schlusnus sings lieder by Strauss on 68131 and 68242. RCA VICTOR: Boston Symphony plays *Flying Dutchman Overture* on 49-0473 and tenor Peerce sings in Yiddish on 49-0590.